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ENVIRONMENTAL ASSESSMENT BOARD

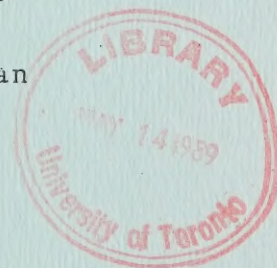
VOLUME: 94

DATE: Wednesday, April 26th, 1989

BEFORE: M.I. JEFFERY, Q.C., Chairman

E. MARTEL, Member

A. KOVEN, Member



FOR HEARING UPDATES CALL (TOLL-FREE): 1-800-387-8810

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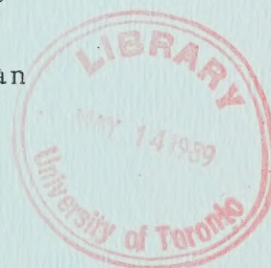


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HEARING ON THE PROPOSAL BY THE MINISTRY OF NATURAL
RESOURCES FOR A CLASS ENVIRONMENTAL ASSESSMENT FOR
TIMBER MANAGEMENT ON CROWN LANDS IN ONTARIO

IN THE MATTER of the Environmental
Assessment Act, R.S.O. 1980, c.140;

- and -

IN THE MATTER of the Class Environmental
Assessment for Timber Management on Crown
Lands in Ontario;

- and -

IN THE MATTER of an Order-in-Council
(O.C. 2449/87) authorizing the
Environmental Assessment Board to
administer a funding program, in
connection with the environmental
assessment hearing with respect to the
Timber Management Class
Environmental Assessment, and to
distribute funds to qualified
participants.

Hearing held at the Ramada Prince Arthur
Hotel, 17 North Cumberland St., Thunder
Bay, Ontario, on Wednesday, April 26th,
1989, commencing at 8:30 a.m.


VOLUME 94

BEFORE:

MR. MICHAEL I. JEFFERY, Q.C.	Chairman
MR. ELIE MARTEL	Member
MRS. ANNE KOVEN	Member

A P P E A R A N C E S

MR. V. FREIDIN, Q.C.)	MINISTRY OF NATURAL
MS. C. BLASTORAH)	RESOURCES
MS. K. MURPHY)	
MS. Y. HERSCHER)	
MR. B. CAMPBELL)	MINISTRY OF ENVIRONMENT
MS. J. SEABORN)	
MR. R. TUER, Q.C.)	ONTARIO FOREST INDUSTRY
MR. R. COSMAN)	ASSOCIATION and ONTARIO
MS. E. CRONK)	LUMBER MANUFACTURERS'
MR. P.R. CASSIDY)	ASSOCIATION
MR. J. WILLIAMS, Q.C.	ONTARIO FEDERATION OF
MR. B.R. ARMSTRONG	ANGLERS & HUNTERS
MR. G.L. FIRMAN	
MR. D. HUNTER	NISHNAWBE-ASKI NATION and WINDIGO TRIBAL COUNCIL
MR. J.F. CASTRILLI)	
MS. M. SWENARCHUK)	FORESTS FOR TOMORROW
MR. R. LINDGREN)	
MR. P. SANFORD)	KIMBERLY-CLARK OF CANADA
MS. L. NICHOLLS)	LIMITED and SPRUCE FALLS
MR. D. WOOD)	POWER & PAPER COMPANY
MR. D. MacDONALD	ONTARIO FEDERATION OF LABOUR
MR. R. COTTON	BOISE CASCADE OF CANADA LTD.
MR. Y. GERVAIS)	ONTARIO TRAPPERS
MR. R. BARNES)	ASSOCIATION
MR. R. EDWARDS)	NORTHERN ONTARIO TOURIST
MR. B. McKERCHER)	OUTFITTERS ASSOCIATION
MR. L. GREENSPOON)	NORTHWATCH
MS. B. LLOYD)	



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APPEARANCES: (Cont'd)

MR. J.W. ERICKSON, Q.C.) MR. B. BABCOCK)	RED LAKE-EAR FALLS JOINT MUNICIPAL COMMITTEE
MR. D. SCOTT) MR. J.S. TAYLOR)	NORTHWESTERN ONTARIO ASSOCIATED CHAMBERS OF COMMERCE
MR. J.W. HARBELL) MR. S.M. MAKUCH)	GREAT LAKES FOREST
MR. J. EBBS	ONTARIO PROFESSIONAL FORESTERS ASSOCIATION
MR. D. KING	VENTURE TOURISM ASSOCIATION OF ONTARIO
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MR. R. REILLY	ONTARIO METIS & ABORIGINAL ASSOCIATION
MR. H. GRAHAM	CANADIAN INSTITUTE OF FORESTRY (CENTRAL ONTARIO SECTION)
MR. G.J. KINLIN	DEPARTMENT OF JUSTICE
MR. S.J. STEPINAC	MINISTRY OF NORTHERN DEVELOPMENT & MINES
MR. M. COATES	ONTARIO FORESTRY ASSOCIATION
MR. P. ODORIZZI	BEARDMORE-LAKE NIPIGON WATCHDOG SOCIETY
MR. R.L. AXFORD	CANADIAN ASSOCIATION OF SINGLE INDUSTRY TOWNS
MR. M.O. EDWARDS	FORT FRANCES CHAMBER OF COMMERCE
MR. P.D. McCUTCHEON	GEORGE NIXON

(iii)

APPEARANCES: (Cont'd)

MR. C. BRUNETTA

NORTHWESTERN ONTARIO
TOURISM ASSOCIATION

I N D E X O F P R O C E E D I N G S

<u>Witness:</u>	<u>Page No.</u>
<u>DAVID LOWELL EULER,</u>	
<u>PETER PHILLIP HYNARD,</u>	
<u>JOHN TRUMAN ALLIN,</u>	
<u>RICHARD BRUCE GREENWOOD,</u>	
<u>CAMERON D. CLARK,</u>	
<u>GORDON C. OLDFORD, Resumed</u>	15762
Continued Cross-Examination by Mr. Hanna	15762

I N D E X O F E X H I B I T S

<u>Exhibit No.</u>	<u>Description</u>	<u>Page No.</u>
523	Abstract of document entitled: Guidelines and Procedures to Minimize Soil Degradation Due to Timber Harvesting in British Columbia: A Decade of Good Intentions.	15802
524	Monograph published by Wildlife Society authored by Dr. Peak.	15932
525	Article published in the Forestry Chronicle 1985, entitled: Towards the Managed Forests: Going Places That We Have Never Been Before by Jack Ward Thomas.	15938
526	Publication entitled Symposium Proceedings: Biology and Conservation of Northern Forest Owls, 1987.	15943

1 ----Upon commencing at 9:05 a.m.

2 THE CHAIRMAN: Good morning. Be seated,
3 please.

4 Mr. Hanna, I think when we left off we
5 were about to admit Exhibit 523.

6 MR. HANNA: And the photocopier is still
7 closed, Mr. Chairman, I have not been able to produce
8 it yet. I will produce it - and I will not be speaking
9 to Mr. Greenwood about that until after lunch, and I
10 will produce it at that time.

11 I will try to get Mr. Greenwood a copy at
12 the break and he will have -- it is only one paragraph
13 in the exhibit, so I think he will be able to deal with
14 it.

15 THE CHAIRMAN: Okay. Well, we will give
16 it a title and admit it formally when you actually
17 produce it.

18 MR. HANNA: Certainly.

19 Mr. Chairman, I would like to apologize
20 for my bad manners in not having introduced my
21 colleague to the Board. I apologize for that. I would
22 like to introduce Dr. Terry Quinney who is the
23 Provincial Coordinator of Fish and Wildlife Services
24 with the Ontario Federation of Anglers & Hunters and he
25 has been working with me in putting this

1 cross-examination together and, in fact, has been
2 working throughout the case on the Federation's behalf.

3 Mr. Chairman, yesterday you asked me to
4 give you an idea about where I was going in my
5 cross-examination, and I am sure you can appreciate I
6 wasn't totally prepared to respond to that. I would
7 like to take five minutes and perhaps deal with a few
8 loose ends that I didn't deal with yesterday. I think
9 it will help us in the cross-examination of this panel,
10 if we could.

11 THE CHAIRMAN: Very well.

12 MR. HANNA: I will try not to cover the
13 same ground I covered yesterday. It is really a couple
14 of issues that I didn't deal with yesterday perhaps as
15 adequately as I might have liked to.

16 What is the thrust of the Ontario
17 Federation of Anglers & Hunters case? I think to
18 understand that thrust we must first understand at
19 least where we see this hearing going.

20 We see this hearing being unlike any
21 other that has come before this Board. We do not see
22 the Board, by and large, being asked to make tradeoff
23 decisions which is the normal type of situation that
24 the Board is faced with with an individual class EA --
25 or an individual EA.

1 I believe the Applicant has made a very
2 convincing case that most tradeoffs need to be made at
3 the local context, and we certainly appreciate that and
4 in fact support that philosophy. For example, there
5 are certain to be cases where greater emphasis will be
6 given to moose and, in other, cases greater emphasis
7 will be given to timber or some other concern. These
8 will be decided on a case-by-case basis. What we are
9 doing here is setting up how those decisions will be
10 made.

11 I think we all know we are entering into
12 unchartered waters. We are going where we have never
13 been before in environmental assessment. Only last
14 December I chaired a series of workshops on behalf of
15 the Ministry of the Environment at which some of the
16 best legal and technical experts in environmental
17 assessment examined how a class EA process might work
18 for solid waste management master plans.

19 I submit to the Board that there are many
20 common elements facing this province in terms of trying
21 to deal with that issue as there is in trying to deal
22 with timber management plans.

23 As a result of those discussions only one
24 thing was clear, and that is that there is no clear
25 answer as to how the class environmental assessment

1 should be applied to major undertakings.

2 I can say to you that there was a number
3 of very provocative and interesting ideas that came out
4 of those discussions and, indeed, some of that will
5 probably be part of the case that we will bring forward
6 in our evidence-in-chief.

7 Given our interpretation of what a class
8 environmental assessment is, it causes us concern when
9 the proponent comes forward and claims that there will
10 be no significant adverse impacts.

11 We appreciate the requirements under the
12 Act to look at the impacts and to weigh the advantages
13 and disadvantages and I am not sure, quite honestly,
14 that the Act deals with how to approach environmental
15 assessments. I don't want to get into the legality of
16 that at this point obviously.

17 But what it does raise is the question of
18 what should be the basis of our decision of the
19 information that should be brought forward to help the
20 Board make its decision. And I believe Ms. Swenarchuk
21 in her questions -- her innocent question about
22 potential impacts versus real impacts raised perhaps
23 inadvertently an interesting question and that is this
24 question of the hypothetical.

25 Because we are not dealing with a

1 specific -- a specific undertaking on a specific site,
2 I submit to the Board that it is very difficult, in
3 fact I would say it is virtually impossible for the
4 proponent to come forward and say: This will be the
5 impacts. What the proponent is saying, in our view,
6 is: This is how we are going to deal with those
7 impacts, this is how we are going to make those
8 decisions, and this is how we will lead to, if you
9 will, complying with the Act in those individual cases.

10 That raises of course the question of
11 what's in the Board's decision if we aren't deciding on
12 those questions. We see that the Board can make -- can
13 provide direction in the following matters.

14 THE CHAIRMAN: Well, just let me stop you
15 there for a minute. I don't want to get into, at this
16 point, the whole area of what the arguments will be at
17 the end of the case as to what the jurisdiction of the
18 Board is and what the Board should be deciding and the
19 structure of the Board's decision and what entails the
20 Board's decision. I don't think that's appropriate at
21 this stage of the case.

22 Obviously all parties are going to have
23 the opportunity to make argument at the end of the case
24 and they will be doing so after having the benefit of
25 everybody else's evidence on the record.

1 So I appreciate in attempting to explain
2 to the Board your client's position and interest so
3 that we can better focus, if I might put it that way,
4 the cross-examination as we discussed yesterday, that
5 some of these questions crop up. But I think I would
6 like you to refrain from going into any kind of detail
7 as to what the Board should be deciding and what issues
8 are before the Board for decision, because I think this
9 is really a matter of argument for later on.

10 MR. HANNA: Certainly. I'm finished with
11 that component, sir, so I am moving on now to...

12 THE CHAIRMAN: Okay.

13 MR. HANNA: As I'm sure you appreciate,
14 I'm trying to stay off -- away from that line of where
15 we will be argument in dealing with those issues. As
16 you appreciate, I am trying to let you know where we
17 are coming from. It's not perhaps to open up that
18 process at this time.

19 THE CHAIRMAN: Okay.

20 MR. HANNA: There are generic problems
21 that we can deal with that we see that should be dealt
22 with at this time and soil compaction is one that we
23 have talked about in this particular panel and is one
24 that lends itself to, if you will, a generic treatment;
25 likewise the Fish Habitat Guidelines, because they

1 provide the ability to deal in a generic way with water
2 quality.

3 But even in this cases there is a
4 site-specific element and, given that site-specific
5 element, I come back and say that it is extremely
6 difficult to arrive at an overall decision in terms of
7 advantages and disadvantages.

8 It is our view that the purpose of the
9 planning process is to put in place an effective and
10 fair - in all senses of the word - system to arrive at
11 the decisions on a case-by-case basis at a local level.
12 Hopefully the process will work well and agreement on
13 sensitive issues can be reached. But if they cannot,
14 the purpose of the bump-up clause is to provide resort
15 to an independent review.

16 It is at this point that the Board, in
17 our view, will be asked to arbitrate among the parties
18 and to decide on the most equitable tradeoffs for that
19 specific case.

20 We see the Board having the opportunity
21 to say to the proponent: These are acceptable
22 techniques in terms of how you might go about doing the
23 undertaking, the preparation of environmental
24 assessment, here is the scope of the issues which you
25 might consider, here is the minimum types of

1 information that you might bring forward and indeed,
2 even looking at the rationale, and saying: This is how
3 you will go about and providing the need in a
4 particular circumstance, so that we don't have to go
5 back through and try and define that every time we go
6 through the process.

7 THE CHAIRMAN: Okay, I understand that.
8 But how does it relate to this panel's evidence?

9 MR. HANNA: This panel in particular I
10 see is dealing with the question of methods in terms of
11 predicting and evaluating impacts, and I am looking at
12 it in that context, in that generic context of what
13 type of evidence this panel should be bringing forward
14 to minimize the likelihood of bump-up.

15 And I would say to the Board, if you
16 will, that the objective or the performance measure,
17 using Dr. Baskerville's terms, that you might consider
18 in terms of how effective we have been at this hearing
19 after "x" number of years is: If we don't have many
20 bump-ups, I think we have got a very effective system.
21 And we feel that that can be dealt with by ensuring
22 that we have a traceable, accountable and a system
23 that's open to the public in terms of how the decisions
24 are made.

25 I have described through the

1 cross-examination the seven steps that we see in the
2 process and the reason we have emphasized those seven
3 steps is to try and provide, again, a traceable system.
4 We do these steps, this is how we do the steps, and the
5 public can then see how the decision is arrived at.

6 THE CHAIRMAN: Okay. But once again, I
7 want to remind you of the precise purpose of the
8 cross-examination, and that is: These witnesses in
9 their direct testimony have put forward certain facts
10 and certain methodology as to how they go about dealing
11 with harvesting and impacts arising from harvesting.

12 You can question them on what they do and
13 ask their opinion on why they do it and even suggest to
14 them, in some instances, would they agree with doing it
15 a different way.

16 But really the thrust of what you are
17 saying, or you just said is for your own case. The
18 thrust of it is: If you have the alternative methods
19 that you want to put forward before the Board to say
20 that there are better methods and these are the ones
21 that we would ask the Board to consider in the course
22 of rendering its decision, that would be really for
23 your side of the case, to put forward your position in
24 direct testimony and then, of course, the other parties
25 have the opportunity to question your positions.

1 To advance your whole position or the
2 thrust of your position through the other side's case
3 is not properly, in my view, the role of
4 cross-examination.

5 You are testing with these witnesses the
6 positions that they have put forward on the basis of
7 their evidence, and I think this is part of the
8 difficulties we are having and it certainly leads to a
9 lengthening of the case because you are going to have
10 an opportunity to put forward your own position when
11 your party is called to present its evidence-in-chief.

12 And if your position has effectively
13 already been put before the Board through
14 cross-examination or under the guise of
15 cross-examination, we are effectively doubling up, and
16 if we allowed all the parties to conduct the case in
17 this way, we would end up with a case, quite frankly,
18 twice as long.

19 There is a fine line. That doesn't mean
20 to say that you can't ask any questions and can't put
21 any hypotheticals or other positions or postulate to
22 the witnesses to get their opinion on what they think
23 of various aspects of what you are going to confirm in
24 terms of presenting witnesses of your own later on, but
25 you have to back off from trying to put forward your

1 own position through a panel of witnesses called by
2 another party under the guise of cross-examination.

3 MR. HANNA: Mr. Chairman, I appreciate
4 that direction and I will do my very best to
5 accommodate you in that respect.

6 The only point that I would make and the
7 type of the line of questioning that we have raised
8 with this panel is to look at this question of
9 traceability and accountability and to see how that
10 they see that that will be dealt with and how the
11 public will get access into the system.

12 So that's the --

13 THE CHAIRMAN: Right. Under the manner
14 in which they have indicated they wish to do it or are
15 doing it.

16 MR. HANNA: Certainly. But I think even
17 the proponent has said - and perhaps I can deal with
18 this through the cross-examination - that there are
19 certain key elements of a planning process and it is
20 actually in the environmental assessment itself and
21 that's really where I am coming from. It is sort of as
22 a motherhood.

23 THE CHAIRMAN: Yes, and you can test
24 anything in the assessment that they have put forward
25 by way of direct evidence.

1 But what I am trying to say is, try and
2 confine it to using cross-examination to test their
3 evidence as opposed to putting forward through
4 cross-examination your own evidence because, again, you
5 will have an opportunity and a full opportunity to do
6 that at a later stage.

7 MR. HANNA: Thank you, Mr. Chairman.
8 Could I just finish? There is some matters as far as
9 the actual Federation's position at the hearing, its
10 purpose itself.

11 I've finished now with what I see as far
12 as the elements of the case.

13 THE CHAIRMAN: Okay.

14 MR. HANNA: The Ontario Federation of
15 Anglers & Hunters is uncomfortable as an intervenor
16 and, particularly, in opposition to MNR, the Ministry
17 of Natural Resources.

18 The working relationship between these
19 two parties overall has been excellent. We have
20 experienced in the past problems in terms of
21 traceability, accountability and access to the
22 decision-making process, but that's not to say that it
23 has not been a productive working relationship. That,
24 indeed, has been established over a great number of
25 years.

1 The Federation sees this environmental
2 assessment as an opportunity to reduce these sources of
3 friction such that we can work more efficiently and
4 harmoniously together. We fully support the notion of
5 resource management being the concept of wise
6 management and conservation of resources. It is not
7 our intent at these hearings to put the forest industry
8 out of business. Many of our members are in fact
9 employed by the industry and live in towns dependent on
10 forestry.

11 We support the basic planning concept
12 that the Ministry has put forward of setting overall
13 objectives and working towards them. We also support
14 the featured species approach that the Ministry has put
15 forward.

16 However the nature of the hearings, as we
17 are all aware, is adversarial and indeed there is on
18 occasion some benefit in that; that is, it provides the
19 opportunity for critical answers to be produced and
20 then to put to the test of logic and reason. The down
21 side is potential polarization.

22 We generally support the programs of the
23 Ministry of Natural Resources. Our questions are
24 designed to draw out potential flaws but not to knock
25 the whole house down. What we hope to accomplish is to

1 see -- is to adequately amend this environmental
2 assessment so that it can be approved.

3 The people of Ontario have waited since
4 1975 for this EA and to turn this application down now
5 and to start all over should only be considered in the
6 most extreme circumstances.

7 The challenge we see that all parties to
8 this hearing face is to attempt to improve this EA such
9 that it is adequate to carry us into the next century.
10 It is our sincere hope that this can be accomplished.

11 We see this EA as an opportunity and
12 perhaps a fleeting opportunity to move forward from the
13 status quo in Ontario to the vanguard of resource
14 management planning in the country and perhaps the
15 world.

16 The Ontario Federation of Anglers &
17 Hunters is attempting to serve its role to its members
18 and people of Ontario to this end.

19 Thank you, Mr. Chairman.

20 THE CHAIRMAN: Thank you.

21 DAVID LOWELL EULER,
22 PETER PHILLIP HYNARD,
 JOHN TRUMAN ALLIN,
23 RICHARD BRUCE GREENWOOD,
 CAMERON D. CLARK,
24 GORDON C. OLDFORD, Resumed

25 CONTINUED CROSS-EXAMINATION BY MR. HANNA:

1 Q. Dr. Euler, we left off with Exhibit
2 518.

3 DR. EULER: A. Yes.

4 Q. I'd like you to turn to page 25 of
5 Exhibit 518 if you would, please.

6 THE CHAIRMAN: What is that again?

7 MR. HANNA: I'm sorry, it's the Racey
8 paper that we were -- the investment impacts. Mr.
9 Chairman, I think it is one of the thicker --

10 THE CHAIRMAN: Very well. I have it,
11 thank you.

12 MR. HANNA: Q. Under differential
13 investment, Dr. Euler, the first sentence says:

14 "Many of the problems or conflicts seem
15 to arise in the application of moose
16 or deer habitat guidelines when the
17 question of economics is raised."

18 Do you agree with this view?

19 DR. EULER: A. Yes, I think that's fair.

20 Q. You would agree then that biologists
21 are often faced with difficult questions from foresters
22 asking for economic rationalizations when prescribing
23 modified cut patterns?

24 A. Yes, that's correct.

25 Q. Can we turn to page 28, please.

1 Perhaps Mr. Clark might be the person I should --
2 perhaps you should look at it also, Mr. Clark, at the
3 same time because I am going to ask the next
4 question -- some of the questions to you.

5 MR. FREIDIN: Mr. Hanna, let the witness
6 read this.

7 MR. HANNA: Well, that's fine. I don't
8 think the question I am going to ask him is going to
9 require him to have complete knowledge of the exhibit.

10 THE CHAIRMAN: Excuse me a moment. I am
11 missing one exhibit, I'm just trying to organize it.
12 We are missing one copy of 519. Did you give us --

13 MR. HANNA: Which is...?

14 THE CHAIRMAN: This is the Van Kesteran
15 paper.

16 MR. HANNA: Mr. Chairman, I can provide
17 that to you. I will not be dealing with that before
18 the break and I can ensure the Board has an extra copy
19 after the break.

20 THE CHAIRMAN: Okay. When you are
21 submitting the exhibits - and I know you are having
22 problems with the photocopying at the moment - but we
23 need an extra copy, three plus one for the record of
24 all exhibits.

25 MR. HANNA: I will do that in future,

1 sir.

2 Q. I am looking on page 28 under
3 conclusions, the first full paragraph. Perhaps, Dr.
4 Euler, could you just read that paragraph, please.

5 DR. EULER: A. "Until normalization of
6 the age structure and distribution of
7 stands occurs there will be
8 inconsistencies with the economic
9 rationale for the application of the
10 moose or deer habitat guidelines as a
11 featured species management strategy.
12 This means we must not only resolve the
13 issue of minimum block size, length of
14 time until a return cut, prioritization
15 of the land base, differential investment
16 and accelerated access, but we must also
17 determine better ways of evaluating the
18 economic and social impacts of our
19 management actions."

20 Q. Do you agree with this statement, Dr.
21 Euler?

22 A. Yes, I think so.

23 Q. Mr. Clark, is it fair to say that it
24 is your responsibilities on this panel to deal with the
25 economic and social impacts?

1 MR. CLARK: A. Well, that is certainly
2 the major thrust of my evidence.

3 Q. Can you tell this Board what efforts
4 are underway by the Ministry to develop the types of
5 tools that are referred to in this paper?

6 A. To be quite honest with you, I don't
7 think I can.

8 MR. HANNA: Mr. Chairman, there are
9 elements of this paper that deal both with harvesting
10 and deal with access, and given the fact that we have
11 had this problem in terms of people reading it and
12 whatever, I propose that we can come back to this paper
13 and deal with it in Panel 14 when we start dealing with
14 access.

15 And so I just simply say we have dealt
16 with part of the harvesting side, it has an access side
17 to it and we will deal with the full paper in that
18 context, because actually we have to talk about access
19 at the same time.

20 THE CHAIRMAN: That would be more
21 appropriate, I would think.

22 MR. HANNA: Thank you.

23 Mr. Chairman, I am going to attempt a new
24 style here and I'll see if it's going to work. Each
25 witnesses, I'm going to try and tell you the points

1 that I would like to try and deal with them on and see
2 if that will help in terms of this cross-examination.
3 Just briefly I'll just itemize the points and see if
4 that helps.

5 I am now going to ask some questions of
6 Mr. Clark and the questions have three components to
7 them. The first is the matter of the adequacy of the
8 information that is brought forward by the Ministry in
9 terms of socio-economic impacts and techniques
10 associated with that and I want to explore what types
11 of techniques the Ministry is using and has rejected or
12 adopted.

13 The second issue I would like to deal
14 with Mr. Clark on is the adequacy of the tourism
15 guidelines to deal with the socio-economic impacts
16 associated with harvesting.

17 And the third point that I wish to
18 explore with Mr. Clark is, given the site-specific
19 nature of socio-economic impacts, what basis he has to
20 come to a conclusion for the whole area of the
21 undertaking that there will be no significant adverse
22 impacts.

23 So those are the three thrusts of the
24 cross-examination I hope to follow through.

25 Q. Mr. Clark, are you familiar with the

1 concept of consumer surplus as is used to evaluate
2 public goods?

3 MR. CLARK: A. In a very general way. I
4 don't think that I could articulate it to the
5 satisfaction of an academic. Perhaps you could help
6 me.

7 Q. No, perhaps you could help the Board
8 and at least give it, to the best of your knowledge,
9 what that term means?

10 A. I am not sure I can without some
11 opportunity to give it additional thought.

12 Q. So it's not a term that you are
13 familiar with and use regularly?

14 A. No, it isn't.

15 Q. Do you know if consumer surplus is a
16 means to evaluate social and economic consequences of
17 resource management decisions?

18 A. Well, it certainly may be embodied in
19 certain of the sort of prototypical types that are used
20 like cost/benefit analysis.

21 Q. But consumer surplus is not a
22 necessary element of benefit/cost analysis, it's
23 something independent in itself; is that not correct?

24 A. I believe so. However, I am not an
25 economist and I can't really speak to that particular

1 concept in detail.

2 Q. So you are telling us you cannot
3 speak to the economic impacts of the undertaking?

4 A. No, I didn't say that at all.

5 THE CHAIRMAN: Now, Mr. Hanna, the
6 witness has indicated that he is not familiar with this
7 particular methodology or theory or whatever you want
8 to characterize it as.

9 It may be one that is used in terms of
10 socio-economic impact analysis, there are a variety as
11 you can appreciate of other methodologies that are in
12 current use. I don't think it's productive to go much
13 further in terms of this witness on this particular
14 concept because he has clearly indicated he is not
15 familiar with it and really can't speak to it.

16 Now, once again, your side of the case,
17 you can bring in a witness and indicate clearly in that
18 witness' view that this is something that must be
19 included, should be included and is absolutely
20 essential to any kind of socio-economic impact
21 analysis. And that would be for the Ministry then to
22 indicate in its cross-examination or otherwise that
23 that is not necessarily their view.

24 MR. HANNA: Mr. Chairman, I have every
25 intent to bring that forward in evidence-in-chief.

1 Really what I'm trying to explore with this witness is
2 if they've considered the technique and rejected it for
3 some reason. That is really -- I'm coming from that.

4 THE CHAIRMAN: Very well. You can ask
5 him that question.

6 Mr. Clark, have you considered it and
7 have you rejected it for a particular reason, or has
8 the Ministry?

9 MR. CLARK: Well, it's very hard to
10 generalize. It may be appropriate for me to talk in a
11 more general way about the basis on which we might
12 choose a particular technique rather than address this
13 particular one.

14 I can't say that we have or haven't
15 rejected it, particularly in all cases, because I think
16 that if I were to try and state a general rule it would
17 be that we choose the tool that we think is most
18 appropriate to deal with a particular problem we're
19 dealing with. So that if we're dealing with issues of
20 evaluation, there are a range of potential tools that
21 can be used depending on the particular situation we're
22 dealing with.

23 MR. HANNA: Q. For example?

24 MR. CLARK: A. Well, I would suggest,
25 for example, one tool might be something that I would

1 generally characterize as financial analysis as a means
2 of determining the particular impacts that a proposal
3 might have and I harken back to the Lac Seul case where
4 there was a -- the example I used, where there was a
5 conscious effort on the part of the proponent in that
6 case, the Lac Seul Indian Band and McKenzie Forest
7 Products to identify the financial implications of a
8 particular -- a number of alternatives.

9 Likewise we might, as an evaluation
10 technique, choose to use content analysis as a means of
11 analysing public response to a particular issue that
12 would allow us to formulate, analyse public input.

13 In certain instances we might undertake a
14 socio-economic impact analysis in a somewhat more
15 formal way. In other instances we might strictly rely
16 on a verbal or written rationale, hopefully rationale
17 and logical evaluation of particular alternatives.

18 So the point I'm making here is that we
19 don't -- it's not a case of not ever subscribing to a
20 particular technique. I think the important principle
21 here is choosing the appropriate technique to deal with
22 the particular circumstance that you are dealing with
23 and as a one time manager and as a regional coordinator
24 in large measure that was one of the jobs that I had to
25 do was to ensure that we looked at the particular

1 problem we were dealing with and chose the appropriate
2 tools to deal with it.

3 So getting back to your question,
4 obviously I'm having a little bit of difficulty with
5 the terminology and I would need time to look at that,
6 but I think what I'm really saying is we choose the
7 appropriate tool to deal with the problem we're dealing
8 with or we attempt to.

9 Q. What tool did you use to arrive at
10 your conclusion that there is no significant impact of
11 harvesting as far as the socio-economic environment
12 went?

13 THE CHAIRMAN: Well, just a moment.
14 Before we go into this line of questioning, could you
15 clarify for the Board, panel, is it the position of the
16 Ministry that there is no adverse impact arising from
17 harvesting across the area of the undertaking, or
18 rather there may be and there could be but here's how,
19 if they are identified, they will be addressed?

20 MR. CLARK: Yes, I think that is very
21 definitely the case. I think that I made it very clear
22 in presenting my evidence that I was - and I said I did
23 so at some risk - attempting to provide a general
24 overview at the area of the undertaking of our
25 perception of what the potential effects would be.

1 I think I also made it clear that
2 those -- that in the presence of sound timber
3 management that the majority of those negative effects
4 could be prevented or mitigated and that evidence was
5 presented in that way.

6 THE CHAIRMAN: And you are also clearly,
7 are you not with that statement or that position,
8 indicating that it's not a case that there won't be any
9 negative impacts, there may well be some negative
10 impacts, but in the course of deciding whether or not
11 to proceed or to proceed in a particular manner, those
12 negative impacts have been weighed against other
13 impacts of a positive nature and overall, in the
14 tradeoff equation, steps are being taken to proceed on
15 the basis that whatever the negative impacts may be,
16 they are sufficiently mitigated, or the benefits are
17 sufficiently positive that the activity should be
18 undertaken?

19 MR. CLARK: That's correct. I think that
20 early, early on in our evidence we stressed the IRM
21 perspective for philosophy and emphasized the idea that
22 we're optimizing benefits and minimizing conflict.

23 THE CHAIRMAN: See, and the reason I'm
24 getting into this at this point, Mr. Hanna, is because
25 you seem to be proceeding on the assumption that either

1 through Mr. Freidin's opening statement or something
2 that the panel has said that they are taking the
3 position that under no circumstances will there be any
4 negative impacts arising from harvesting or any of the
5 other activities across the area of the undertaking.

6 And, I mean, I think it would be
7 stretching the point just on common sense logic to
8 suppose that none of these activities will have any
9 negative impacts, that generally isn't the case and I
10 don't think we spent the last year or however long it
11 has been--

12 MR. HANNA: It's getting closing.

13 THE CHAIRMAN: --listening to this
14 evidence on the basis that we will set into motion a
15 planning process that will absolutely and categorically
16 prevent all negative impacts.

17 MR. HANNA: I'm glad we're at the same
18 line, Mr. Chairman. That is certainly where I'm coming
19 from.

20 MR. MARTEL: Can I ask Mr. Clark a
21 question then. I think Dr. Euler came the closest to
22 it.

23 If the Ministry had wanted to in its
24 evidence it presented - I think Dr. Euler closest when
25 he showed the cut - MNR probably could have shown this

1 panel some negative impacts in certain areas that
2 occurred and which they have attempted to remedy; is
3 that correct?

4 MR. CLARK: They could have and I believe
5 they did. I know that Mr. Greenwood certainly did, Mr.
6 Euler did. And, yes, so we did do that.

7 MR. MARTEL: Yeah, and that is what I
8 worry about.

9 MR. CLARK: When you say worry --

10 MR. MARTEL: About where the questioning
11 is going. It seems to be that there is no impacts --
12 takes the position there are no impacts -- no negative
13 impacts, yeah.

14 THE CHAIRMAN: Yes, that is what we want
15 to sort of forestall, if we might, with your
16 questioning.

17 MR. HANNA: You forestalled it very well,
18 Mr. Chairman. I think that is precisely where I was
19 coming from. As long as we're on the same line, I
20 think there is no problem.

21 THE CHAIRMAN: Okay. Well, I think there
22 is agreement from the panel that that is not the
23 Ministry's position, that there are no negative
24 impacts; is that correct?

25 MR. CLARK: That's correct.

1 MR. HANNA: I can say to you that perhaps
2 I shouldn't have taken Mr. Freidin's statement as
3 evidence, but there is a categorical statement in the
4 transcripts which I'm -- and that is what arose this
5 line of questioning.

6 THE CHAIRMAN: Well, Mr. Freidin, I know
7 that your opening statement was meant to provide an
8 overview and a direction of where the Ministry's case
9 was positioned, but I think we can certainly shorten
10 cross-examinations, if we're proceeding on the basis
11 that we just discussed, that there are negative impacts
12 but the whole process that we're examining as to how to
13 minimize those, and not always in every case prevent
14 them, but decide on the basis of tradeoffs whether or
15 not the particular activity should or should not be
16 undertaken.

17 MR. FREIDIN: We can proceed on that
18 basis, as far as I'm concerned.

19 MR. CLARK: There is maybe, just once
20 again harkening back to my evidence. I generalized at
21 the area of the undertaking. That does not rule out
22 the possibility that significant negative effects may
23 occur in specific areas in particular cases.

24 The one point I made was that it was very
25 important not to draw conclusions on the basis of

1 isolated examples and I think what we were trying to do
2 was make an overall determination.

3 MR. HANNA: Thank you, Mr. Chairman.

4 Q. Mr. Hynard?

5 MR. HYNARD: A. Well, I was just going
6 to try and elaborate on that one too. Our evidence was
7 not that there are no effects. I think our evidence
8 was in normal operating areas that there are no
9 significant adverse effects.

10 And I had said earlier that a significant
11 effect would be an effect that impinges upon the
12 ability of our Ministry to attain any of its objectives
13 and we have very far-reaching objectives in all areas
14 of outdoor recreation and resource development.

15 Significant effects would also be effects
16 that are greater than those that occur in the natural
17 environment taking into account natural disturbances
18 and their frequency, intensity, duration and extent.

19 And so for normal operating areas, our
20 benchmark is this natural environment including natural
21 disturbances. Within areas of concern, these are areas
22 that have a special forest use or special value in
23 which normal operations would adversely affect that use
24 or value and in that --

25 THE CHAIRMAN: And they are handled

1 differently?

2 MR. HYNARD: They are handled
3 differently. They have a specific prescription to
4 protect that other use or value or tradeoff, depending,
5 as you stated Mr. Chairman, on other benefits that
6 could be derived. And that rationale for the final
7 decision, those options and that rationale are stated
8 and documented in the management plan.

9 So we say that there, within areas of
10 concern, are potential effects but that in prescribing
11 a modification we minimize those effects. That's our
12 evidence.

13 MR. HANNA: Mr. Chairman, I entered this
14 at this point. We have got a lot to cover today and we
15 have to have these things explained and I think it is
16 useful. I am just trying to avoid going over what's
17 already in evidence in the past. I believe virtually
18 everything that Mr. Hynard said is already in evidence.
19 I'm just trying to move this along as quickly as I can
20 because I have a lot to cover and --

21 THE CHAIRMAN: Okay. Well, let's cover
22 it, but take heed of where we are going--

23 MR. HANNAL: Yes, sir.

24 THE CHAIRMAN: --in terms of addressing
25 the evidence of this panel.

1 MR. HANNA: That's precisely -- I'm
2 trying to do that my best, sir.

3 Q. Mr. Clark, what tools are you
4 proposing to be used to predict the social and economic
5 impacts of harvesting?

6 MR. CLARK: A. Are you talking
7 specifically about my evidence or in the process of
8 timber management?

9 Q. We have just gone through the
10 discussion that there is a variety of tools that the
11 Ministry has available to them to do these types of
12 analyses. You're not coming forward and saying these
13 are the tools that we would like the Board to say are
14 okay for us to use to arrive at these conclusions?

15 A. Well, I think my answer is that we
16 will be identifying a planning process and in that
17 process we do identify a comprehensive planning process
18 for areas of concern, and in that process we identify
19 issues and problems, identify alternatives, go through
20 a process of an environmental evaluation and choose
21 what we think is the most appropriate alternative.

22 Now, in that process I think what I am
23 saying is that the manager at the local level has to
24 make a judgment about what the most appropriate tools
25 are that he might want to use depending on the

1 particular problem or issue that he is dealing with.

2 THE CHAIRMAN: Mr. Hanna, it occurs to us
3 that a lot of what Mr. Clark has just referred to was
4 put forward in Panel 6, I believe. I am not sure I got
5 the right number of the panel, but it was the one in
6 which Mr. Pyzer appeared.

7 MR. FREIDIN: Seven.

8 THE CHAIRMAN: Seven. And indicated how
9 these decisions are made at the local level and what
10 tools are used to render those decisions -- to assist
11 in those decisions.

12 MR. HANNA: Mr. Chairman, I guess I am a
13 bit perplexed then by what we are dealing with in this
14 panel. It seems to me this is a harvesting panel, it
15 has come forward and said these are the -- here is how
16 we predict the impacts of harvesting.

17 And I am trying to explore with this
18 panel what -- how they go about that, what are the
19 tools that they use, how do they do it, go through that
20 socio-economic assessment process with respect to
21 harvesting, otherwise I must admit, I am a little bit
22 lost in terms of what the purpose of this panel is
23 then.

24 I appreciate what Panel 7 said. I have
25 read that and I am fully familiar with what Mr. Pyzer's

1 evidence was.

2 THE CHAIRMAN: But you must also be
3 cognizant of their direct evidence where the various
4 witnesses went through and indicated how they arrive at
5 decisions taking into account their various impacts.

6 I mean, are you asking Mr. Clark to
7 repeat the panel's evidence? What exactly are you
8 asking him to do?

9 MR. HANNA: I see no -- there is nothing
10 I can put my hand on in the witness statement or in the
11 evidence in the transcripts that says: Here are the
12 tools that we use to arrive at those decisions.

13 We have already talked about this generic
14 problem and the fact that we can't come -- we have got
15 all these site-specific problems that we have to deal
16 with and whatever. I am simply exploring: Well, how
17 do you process, with the specific type of impact,
18 harvesting, to deal with it.

19 One of the tools, for example, that the
20 Board has -- or that the proponent has come forward
21 with would be, for example, the MAD calculation. Here
22 is the way we are going to go about calculating MADs
23 and that is a tool that we are asking, if you will,
24 acceptance in terms of the philosophy as a basis upon
25 which to do our planning in terms of cuts. And so we

1 are saying that's how we do it.

2 And I am asking: Well, how do we do
3 socio-economic assessment, particularly here with
4 respect to harvesting.

5 MRS. KOVEN: Would it be helpful, Mr.
6 Hanna, if you limited the question to how the
7 assessment of potential impacts on fishermen and
8 hunters was conducted; if there are any specific
9 studies that were done to arrive at the conclusion that
10 fishermen and hunters were affected in a way that
11 appeared in the graphs?

12 MR. HANNA: Thank you for helping me, Ms.
13 Koven. That will help me.

14 Q. Mr. Clark, what basis did you use to
15 arrive at your assessment of the impact of harvesting
16 on anglers?

17 MR. CLARK: A. Well, as I pointed out in
18 the evidence, I relied on a number of things. First of
19 all, I relied on the evaluations that were made by, for
20 example, Dr. Allin in reviewing the literature and
21 identifying potential effects and studies that related
22 to those effects because the majority of those effects
23 on the aquatic environment found expression in a
24 secondary way on -- or could have found expression on
25 the values that were of concern to anglers.

1 The second point that I made in my paper
2 was that we relied heavily on the experience of our
3 staff and their day-to-day contact with this particular
4 stakeholder group.

5 So that we were really saying to our
6 staff: What are the significant issues that are
7 normally brought to bear in the timber management
8 planning process by anglers, and we listed those
9 particular concerns and translated those into potential
10 effects.

11 And, as I pointed out earlier, in that
12 sense the paper is somewhat speculative, it doesn't
13 pretend to be exhaustive. And I think, as I also
14 pointed out earlier, we rely on the planning process to
15 provide us with that input in specific cases so that we
16 can then make our evaluations on the basis of a real
17 world situation as opposed to a generalization over the
18 area of the undertaking.

19 Q. Would you agree with me that there is
20 more to angling than catching fish?

21 A. Undoubtedly, although for me it is a
22 fairly big part.

23 THE CHAIRMAN: Particularly the catching
24 part?

25 MR. CLARK: Right.

1 MR. HANNA: Q. If I can encapsulate then
2 what you've said: We look at the effects on the fish
3 and we take the experience of our staff and we, if you
4 will, synthesize that in some way and arrive at a
5 conclusion?

6 MR. CLARK: A. In the context of my
7 evidence, yes. Now, I make that distinction.

8 When we wrote the evidence we relied on a
9 variety of publications, scientific studies and we
10 relied on the experience of our staff and, of course,
11 in my case, my own experience.

12 In terms of timber management -- the
13 timber management we do throughout the area of the
14 undertaking, we rely on the timber management planning
15 process and through that process we attempt to solicit
16 the views and concerns, for example in this case, of
17 anglers in terms of how timber management activities
18 may affect them.

19 Q. Are you aware of any way to take
20 those views and to put them into terms that are
21 comparable across a wide range of measures?

22 A. Could you be a little bit more
23 explicit in your question?

24 Q. It is very hard to tradeoff anglers'
25 views against \$30-million worth of excess road, for

1 example?

2 A. Very difficult.

3 Q. Are you aware of any techniques to
4 assist the manager in that respect?

5 A. Well, I would first of all emphasize
6 the need for sound, subjective judgment on the part of
7 the manager, and I want to stress that right at the
8 beginning because I think that, at least in a way we do
9 business, that's fundamental.

10 Yes, there are a number of techniques. I
11 am not sure I can give you an exhaustive list, I can
12 certainly give you some. As I pointed out earlier,
13 there's --

14 Q. We have mentioned it before,
15 financial analysis, content analysis, those were the
16 two that you mentioned?

17 A. And cost/benefit analysis would be
18 another. I would, in a generic way, talk about the
19 socio-economic impact analysis techniques.

20 Q. Mr. Clark, are you familiar with a
21 report that the Ministry prepared called: The Lake of
22 the Woods Fishery: A Social and Economic Assessment?

23 A. I am familiar with it in that it
24 exists, I am not familiar with the detail. I believe
25 that was probably done around -- in the early 1980s.

1 Q. Right. And that used some very
2 specific tools to arrive at a social and economic
3 assessment. It was done by the Ministry.

4 A. I believe it was done by a consultant
5 for the Ministry.

6 Q. Is not the consultant that undertook
7 that the same consultant that did the tourism
8 guidelines?

9 A. I believe so, at least some of the
10 same actors. I would want to be careful.

11 Q. In fact I have some knowledge that it
12 may not have been the same actors. Would that be
13 possible?

14 A. Quite. I think that's the point I
15 was making, it may have been the same firm, but not the
16 same people.

17 Q. Did that study require extensive
18 collection?

19 A. I believe it did, although I want to
20 stress I had no involvement whatsoever in that study.

21 Q. Does the concept total value
22 framework mean anything to you?

23 A. No.

24 Q. Would it be fair to say you have not
25 read the May, 1987 copy of the Transactions of the

1 American Fishery Society which dealt extensively with
2 techniques to evaluate socio-economic impacts of
3 resource management decisions on angling and fishing?

4 A. That's correct, I have not.

5 Q. Are you familiar with the extensive
6 literature produced by the group called Resources for
7 the Future in Washington D.C.?

8 A. I would say I have a passing
9 knowledge of it.

10 Q. Do you know of any individuals in the
11 Ministry that have expertise in this area?

12 A. Could you be more precise about the
13 particular area?

14 Q. Well, in this area of total value
15 framework or socio-economic assessment of resource
16 management decisions?

17 A. Without being able to consult, I
18 couldn't really answer, no.

19 Q. You would have to go to the telephone
20 book?

21 A. Well, I don't think I would go to the
22 telephone book. I think that I can certainly -- I am
23 quite able to find that out.

24 Q. Is angling and hunting part of
25 tourism in Ontario?

1 A. It certainly is.

2 Q. Is angling and hunting addressed in
3 the Tourism Guidelines, Exhibit 379?

4 A. I believe that it is. I think in my
5 presentation I indicated that there were a number of
6 different client groups for whom the guidelines were
7 addressed.

8 While the action was initially initiated
9 by the tourism industry; that is, particularly NOTOA,
10 the guidelines are very explicit in the introduction in
11 indicating that they have wide application for a
12 variety of uses, including cottagers, hikers,
13 canoeists, anglers and so on.

14 Q. Could you show me where on that page
15 1 of Exhibit 379 the word angling or hunting is used?

16 A. I don't believe it is. It refers to
17 cottagers, campers, canoeists, hikers. It also refers
18 in a more general way to a wide variety of user groups
19 and individuals.

20 And I can assure you, as one who was
21 directly involved in management, that when people came
22 to the table with concerns that related to tourism I
23 didn't ask them whether they were anglers, hunters or
24 hikers specifically. If they had a concern, we dealt
25 with it and, to the extent that the guidelines were

1 appropriate, we used them.

2 Q. Can you show me where in your witness
3 statement, when you refer to the application of the
4 guidelines, there is mention of angling or hunting with
5 respect to the guidelines?

6 A. I suspect that it's included on the
7 tables.

8 Q. There is a table that says there is a
9 mitigation of angling and hunting potentially with the
10 tourism impacts -- to the tourism guidelines, excuse
11 me.

12 A. I think I just dealt with them under
13 tourism. I notice I haven't included them--

14 Q. Yes?

15 A. --specifically on the angling one,
16 although I would stress that that doesn't imply for one
17 moment that they wouldn't be used.

18 Q. Can you explain to me how the tourism
19 guidelines deal with angling and hunting socio-economic
20 impacts?

21 A. Well, to the extent that they deal
22 with the concerns of anglers, as they relate to the
23 maintenance of aesthetics, as they relate to the
24 maintenance of remoteness, as they relate to issues of
25 that type. I believe that the tourism guidelines deal

1 with those impacts.

2 Q. So you are suggesting that through
3 the fisheries guidelines and through the tourism
4 guidelines any socio-economic impacts on hunting -- or
5 excuse me, on angling will be dealt with?

6 A. Well, those are the primary tools
7 that we have identified in the evidence, yes. I want
8 to be a little careful here because I want to stress
9 that we have talked in a general way about using these
10 tools.

11 The important thing is that we do so
12 through the planning process as identified in the Class
13 Environmental Assessment and it is through that process
14 that we develop specific prescriptions to deal with
15 site-specific situations, and we receive direction
16 and -- through the guidelines in order to arrive at
17 what we feel are appropriate prescriptions that are
18 acceptable to, for example -- in this case, for example
19 anglers.

20 Q. Was Mr. Jim Stansbury the author of
21 the tourism guidelines?

22 A. He was, I believe, the principal
23 consultant involved in the development of the
24 guidelines. I want to stress, however, as I pointed
25 out in my evidence, that this was developed in a

1 collaborative way, much along the lines that we talk
2 about in the guidelines themselves.

3 So that while he was the author, I
4 believe that he was in effect acting as Chairman and
5 Secretary for a steering committee that was sythesizing
6 input that was received as a result of a number of
7 workshops. And I think to say that he was the
8 principal author is correct, in a very narrow sense.

9 Q. What involvement did anglers and
10 hunters have in those workshops or in that synthesis?

11 A. I believe that to the extent that
12 tourist operators who were directly involved in the
13 workshops derive their income to a large extent from
14 anglers, by representing the interests of anglers they
15 were represented at that point.

16 And I do believe also that the Ontario
17 Federation of Anglers & Hunters had an opportunity to
18 review the guidelines at the draft stage in their
19 development.

20 Q. Mr. Clark, I don't have that on
21 record. Would it be possible for you to provide me
22 with that correspondence?

23 MR. CLARK: A. I will certainly try and
24 make it available to you, yes.

25 Q. Would you agree with me that there is

1 a significant difference in interest in some cases, not
2 all cases, but in some cases between tourist operators
3 and recreational anglers?

4 A. Yes, there is.

5 Q. Yet their interests were supposedly
6 represented by the tourist operators?

7 A. The primary stimulus for the
8 development of these particular tourism guidelines came
9 about as a result of concerns that were expressed
10 specifically by NOTOA and it was in response to those
11 concerns that the process was put in place.

12 However, in developing the guidelines
13 there was a recognition that they had a wider
14 application and some serve the interests of a wider
15 group and, therefore, an attempt was made to
16 accommodate other interests, notwithstanding the fact
17 that not all those interests were involved at the
18 workshops.

19 And, as I pointed out earlier, there was
20 an extensive review by other groups at the draft stage
21 in the development of these guidelines.

22 Q. Thank you, Mr. Clark. I would like
23 to move on to Dr. Allin, if I could, please.

24 MR. HANNA: Mr. Chairman, with Dr. Allin
25 I would like to address the following issues. I

1 believe the Board may have some confusion in their mind
2 in terms of the Federation supporting the Fish Habitat
3 Guidelines and not supporting the timber management --
4 or the Moose Management Guidelines and I would like to
5 have Dr. Allin explain to us the difference between
6 managing fish and timber and wildlife and timber, and
7 perhaps Dr. Euler might help us a bit on that.

8 I want to make very clear what the
9 difference is and what the reason is for our --

10 THE CHAIRMAN: Well, if it is going to be
11 an examination of pointing out the differences that the
12 fish guidelines are rather specific in their
13 application, whereas the moose guidelines are less
14 specific as are the tourism guidelines, I think the
15 Board appreciates those distinctions.

16 I mean, if you are suggesting for a
17 moment that we are confused over the differences in the
18 two guidelines, I would suggest otherwise. I mean, in
19 terms of I think those points were made quite clearly
20 during the direct evidence and in previous
21 cross-examination.

22 MR. HANNA: No, I agree. I think the
23 evidence is very clear in that respect. I think it's
24 simply a matter of the fact of the different tools that
25 are available to the fish managers as opposed to the

1 wildlife managers and, therefore, what that implies in
2 terms of your best approach to the problem.

3 THE CHAIRMAN: Okay. Let's give it a
4 try.

5 MR. HANNA: The other issues that I would
6 like to deal with: The training message there is one
7 particular item there I just want to get clarified and
8 with respect to the guidelines themselves, several
9 minor details in terms of wording, so we can just get
10 that clarified and definitions and those sort of
11 things.

12 So those are what I would like to deal
13 with Dr. Allin on.

14 THE CHAIRMAN: Very well.

15 MR. HANNA: Q. Dr. Allin, do you recall
16 Dr. Euler using the analogy of resource managers having
17 two six guns to manage wildlife?

18 DR. ALLIN: A. Yes, I do.

19 Q. Fisheries managers also have these
20 two fishing rods, if I could say - excuse me for a
21 minute - I think you've got the same basic techniques?

22 A. Well, if you are referring to habitat
23 management and harvest control, yes, certainly.

24 Q. Is it your view that timber
25 harvesting is a primary mechanism for managing fish

1 habitat?

2 A. No, I don't.

3 Q. Would you agree that the major focus
4 of the fisheries biologist is to maintain rather than
5 enhance fish habitat during harvesting?

6 A. Yes, I believe that's true.

7 Q. Referring again to Dr. Euler's two
8 six guns, fisheries managers do have available habitat
9 manipulation techniques such as spawning bed
10 improvement, but would you say that these techniques
11 are by and large independent of timber management?

12 A. Well, those techniques are used in a
13 variety of situations resulting from a variety of
14 causes; in some cases the need for some kind of
15 rehabilitation technique could have been effects of
16 timber management but, generally speaking,
17 rehabilitation techniques are used for a wide variety
18 of reasons.

19 Q. Perhaps it is the same question in
20 slightly a different way. I guess the point I am
21 simply asking is: We don't usually manipulate the
22 habitat through harvest?

23 A. That's correct.

24 Q. We have techniques to mitigate, which
25 is the spawning bed improvements and a variety of other

1 techniques that we might use after the fact of
2 harvesting if there was -- damage occurred?

3 A. That's correct. Our emphasis is on
4 prevention of course, but if circumstances are such
5 that rehabilitation techniques or restorative
6 techniques are necessary there are some available, yes.

7 Q. Would you not also agree that in
8 terms of fisheries/timber harvest interactions that the
9 population management six gun is far dominant?

10 A. I'm sorry, could you rephrase that?

11 Q. Okay, sure. The way that the manager
12 deals -- the fisheries manager deals with harvesting
13 impacts is primarily through the guidelines in terms of
14 protecting the aquatic habitat and through, if you
15 will, access in terms of the harvest of the fishery?

16 A. That's correct, those are the major
17 tools.

18 Q. Yes. So that the major population
19 regulation tool that you have available to you in the
20 timber management planning process is access? That is
21 not to say we don't have seasons and all those other
22 things that you have available to you, but just simply
23 within the timber management planning process.

24 THE CHAIRMAN: What are you talking, fish
25 population?

1 MR. HANNA: I am talking about angling,
2 sir, but management of the angling which affects the
3 fish population.

4 THE CHAIRMAN: So your question is: How
5 do you control the number of anglers fishing? I don't
6 understand your question, I am sorry.

7 MR. HANNA: Okay. Well, if you don't
8 understand it, I will just leave it. The witness may
9 have a problem also. Let me try and rephrase it, Mr.
10 Chairman.

11 Q. We have the habitat component in the
12 fisheries timber interaction spectrum and that is dealt
13 with through the habitat guidelines?

14 DR. ALLIN: A. Correct.

15 Q. And we have the population management
16 side of the equation and that is dealt with through
17 primarily access with respect to timber management?

18 A. Yes. I would say in a direct sense
19 that's true but, of course, the habitat protection also
20 has some relationship to fish populations.

21 MR. HANNA: Mr. Chairman, the point of
22 these questions is simply to try and highlight the
23 differences between the wildlife management concerns
24 and how you go about it and the fisheries management
25 concerns.

1 MR. FREIDIN: I just think it might be
2 worth clarifying whether the word access is being used
3 as access to roads to lakes which gives access to
4 lakes, or whether we are talking about through harvest
5 control which is seasons of fishing which is a little
6 different than providing access through roads. I mean,
7 I am not --

8 THE CHAIRMAN: And there you are talking
9 about harvest control, harvesting of the fish?

10 MR. FREIDIN: I am just sort of confused
11 as to which one of these two things he is talking
12 about.

13 THE CHAIRMAN: I know, it's difficult
14 when we are talking population, harvest and some of
15 these terms because it can be applied equally to timber
16 harvest or harvesting of the resource itself such as
17 fish.

18 MR. HANNA: English can sometimes be a
19 confusing language. I apologize for that, Mr.
20 Chairman.

21 Q. Dr. Allin, in my reference I was
22 referring to timber harvesting and controlling, if you
23 will, harvesting of fish populations through access --
24 road access.

25 DR. ALLIN: A. That is what I assumed

1 you were referring to.

2 Q. It's a problem. You and I can speak
3 but, it's difficult for it to be communicated to
4 everyone else.

5 MR. HANNA: I apologize for that, Mr.
6 Chairman, I will try and avoid those sort of
7 misinterpretations.

8 Q. So in conclusion, there is a
9 significant difference in the way that the fisheries
10 biologist goes about managing the impacts of harvesting
11 and the wildlife biologist?

12 DR. ALLIN: A. Well, could you give me a
13 specific reference?

14 Q. Sure. Maybe I am going to ask Dr.
15 Euler the question also and perhaps he can also respond
16 to this.

17 The fisheries manager isn't managing the
18 habitat per se in terms of trying to your enhancement
19 and all those good things that Dr. Euler has told us
20 about.

21 DR. ALLIN: A. Through timber
22 management.

23 Q. Through timber management, you are
24 basically in a protection mode and trying to maintain
25 what is there and your major concern is primarily this

1 one of overfishing? If you protect through the
2 guidelines, then your concern is one of overfishing,
3 the population lever?

4 A. The concern may be overfishing, yes.
5 There are other elements.

6 Q. Well, perhaps you can -- I am trying
7 to make this simple but --

8 A. Mm-hmm.

9 Q. Go ahead, tell me what the other
10 elements are.

11 A. Well, just as an example, in many
12 cases we would want to encourage fishing in a specific
13 lake. There may be species -- fish species that are
14 being under utilized, for example, and in that
15 particular case we might want to encourage greater
16 fishing in a specific lake for those species.

17 And one way of doing that may be through
18 road access.

19 Q. Good. I appreciate you bringing that
20 to my attention because in fact it is not just
21 overfishing it may be underfishing and you are looking
22 at balancing those elements?

23 A. That's correct.

24 MR. HANNA: Mr. Chairman, I am going to
25 move now to go through the guidelines. If you wish, we

1 can have a break now or, if you want, I can continue.

2 I am quite prepared to continue on, but if you want --

3 THE CHAIRMAN: Well, I think the reporter
4 has been going for an hour and a half. We should have
5 a 20-minute break at this time.

6 Thank you.

7 ---Recess taken at 10:25 a.m.

8 ---On resuming at 10:50 a.m.

9 THE CHAIRMAN: Thank you. Be seated,
10 please.

11 MR. HANNA: We have lost Dr. Euler, sir.
12 I am prepared to proceed. I don't have any questions
13 for him, but if you want to wait --

14 THE CHAIRMAN: Well, no, I think we
15 better wait.

16 MR. HANNA: Perhaps we can introduce an
17 exhibit while we are waiting.

18 MR. FREIDIN: Here he comes, a great
19 runner.

20 THE CHAIRMAN: We met Mr. Edwards out
21 there, he is going fishing. Maybe Dr. Euler decided to
22 go with him.

23 MR. HANNA: Can I introduce this exhibit
24 that I hadn't planned -- intended to just before.

25 THE CHAIRMAN: Very well, Exhibit 523.

1 MR. HANNA: It's entitled - another short
2 title, sir - Guidelines and Procedures to Minimize Soil
3 Degradation Due to Timber Harvesting in British
4 Columbia: A Decade of Good Intentions.

5 This was not a biologist, sir. I want to
6 make sure we get the appropriate blame where it's due.
7 This paper was presented at the 13th Annual Canadian
8 Land Reclamation Association Convention in Ottawa in
9 August of 1988.

10 THE CHAIRMAN: Okay, Exhibit 523.

11 ---EXHIBIT NO. 523: Abstract of document entitled:
12 Guidelines and Procedures to
13 Minimize Soil Degradation Due to
14 Timber Harvesting in British
Columbia: A Decade of Good
Intentions.

15 MR. FREIDIN: And I believe it's an
16 excerpt that is being filed, or is it the entire paper?
17 It's the abstract of that?.

18 DR. QUINNEY: Just the abstract.

19 MR. HANNA: Mr. Chairman, this paper was
20 presented -- this paper was presented at the
21 Conference, unfortunately there is not a public version
22 of the paper, it is only an abstract that was presented
23 and I have yet to see a final published version. So
24 this is the only, if you will, written documentation
25 that's available on this paper. (handed)

1 THE CHAIRMAN: Thank you.

2 MR. HANNA: Q. Dr. Allin, can we turn to
3 Exhibit 308 which I believe is the Fish Habitat
4 Protection Guidelines.

5 DR. ALLIN: A. I believe it is 303.

6 Q. Perhaps this is a typo in my
7 secretary's -- or I have done it wrong, Mr. Chairman.

8 MR. MARTEL: 303.

9 MS. BLASTORAH: 303 is the Fish Habitat
10 Guidelines.

11 MR. HANNA: 303. Then, I am sorry it is
12 Exhibit 303.

13 THE CHAIRMAN: Okay.

14 MR. HANNA: I would like to turn to page
15 (i) of the guidelines.

16 THE CHAIRMAN: This one starts with page
17 1.

18 MR. HANNA: I have a preface in mine,
19 sir.

20 THE CHAIRMAN: Oh wait, I'm sorry, maybe
21 there is something. Okay.

22 MR. HANNA: Q. Now, the preface sets out
23 the basic intent of the guidelines; would you agree?

24 DR. ALLIN: A. Yes, that's right.

25 Q. And I am looking specifically, there

1 is only one point here I wanted to deal with and that
2 is on the fifth paragraph down in the first column and
3 the last sentence. The last sentence says:

4 "However, any departures from the
5 guidelines must be consistent with the
6 objective of protecting fish habitat."

7 Now, that is a fairly strong statement;
8 would you agree, it's a must?

9 A. Yes.

10 Q. So it provides very clear direction
11 to the biologist when he's applying these guidelines in
12 terms of what his obligations are?

13 A. Yes.

14 Q. Dr. Euler, are you familiar with a
15 similar requirement in the moose guidelines?

16 DR. EULER: A. I'm sorry, I just didn't
17 get -- what did you mean by similar requirement?

18 Q. Well, there's a very specific
19 directive here given to the fisheries biologist and the
20 directive is:

21 "However, any departures from the
22 guidelines must be consistent with the
23 objective of protecting fish habitat."

24 And I am wondering if there is a
25 comparable clause in the Moose Habitat Guidelines that

1 you are familiar with?

2 A. No.

3 Q. Dr. Allin, I would like to move on to
4 the guidelines themselves, the green part of the
5 guidelines which I believe is page 1, and I am looking
6 at Section 5.1.3(b) which is the top of the second
7 column there.

8 DR. ALLIN: A. Right.

9 Q. And it provides, shall I say, a basis
10 upon which selection cutting may occur and it says:

11 "Where it can be demonstrated..."

12 Now, who would have to demonstrate in
13 this particular case?

14 A. Basically the person, normally a
15 forester who would be proposing that activity within an
16 area of concern around the types of lakes that are
17 being referred to in that category.

18 Q. Fine. Who decides when it has
19 been -- when it has received this adequate
20 demonstration? I know we have gone through this on
21 many occasions, but who would decide the adequacy of
22 the demonstration?

23 DR. ALLIN: A. Well, at a technical
24 level, at a, let's say, scientific level it would be
25 the -- normally the district biologist who would have

1 to judge whether acceptable protection was going to be
2 provided.

3 However, as with all decisions of this
4 sort, ultimately the decision in terms of the
5 prescription for specific areas of concern would be
6 decided by the district manager through his approval of
7 the plan.

8 Q. So if I can just make sure I
9 understand it, the forester would come forward and say:
10 We think we can cut in this particular area for this
11 reason, the district biologist would look at the reason
12 that was brought forward, he would say: No, I don't
13 think it is enough or maybe it is enough.

14 If it was enough, he would then take it
15 to his district manager and say: I think it's enough,
16 or if a forester took it, he would take it to the
17 district manager and the district manager would make
18 the final determination?

19 A. Yes. He might like to see some
20 alternatives presented to him in terms of how things
21 would be done.

22 The Code of Practice, for example, gives
23 some examples of good practices that can be used for
24 carrying out operations within areas of concern and
25 some of those practices might be considered and

1 discussed as alternatives in those discussions between
2 the forester and the biologist.

3 Q. When would that take place?

4 A. Basically the discussions about what
5 would be proposed for the area of concern would occur
6 early in the planning process because the decisions for
7 specific areas of concern are documented at the time of
8 the public information centre. That's where the
9 alternatives for operations in the areas of concern are
10 described and the proposed or preferred alternative is
11 presented.

12 Q. And as part of that process, the
13 rationale for any applications of the guidelines will
14 be provided; is that correct?

15 A. I'm sorry, the rationale for the use
16 of the guidelines?

17 Q. Well, there has been this issue of --
18 in the case the guidelines are applied, will an
19 explanation be given of how they were applied and why
20 they were applied in the way that they were?

21 And I believe there was a question put to
22 Dr. Euler on this matter and he suggested that because
23 these guidelines are also dealing with water quality
24 concerns of the Ministry of the Environment that a
25 rationale would be provided.

1 Do you recall that?

2 A. Yes. A rationale will be provided
3 for the selection of the preferred alternative and also
4 we have made a commitment that we would identify each
5 area of concern for which the Fish Habitat Guidelines
6 were used in making the decision.

7 Q. A minor point here. Actually I had
8 overlooked it and it only came up when you mentioned it
9 now. The Moose Management Guidelines deal with both
10 normal operating areas and areas of concern. The Fish
11 Habitat Guidelines apply only to areas of concern?

12 A. That's correct.

13 Q. Now, hopefully we don't have to go
14 through each one of these, but I just point out in
15 condition 5.21 - perhaps I'll tell you - the term "it
16 can be demonstrated" is used repeatedly throughout the
17 guidelines.

18 And I just refer you to 5.21, 5.23 and
19 5.24. I believe that phrase is used in each one of
20 those conditions.

21 A. Well, it's certainly used in 5.21,
22 yes.

23 Q. Well, I believe in 5.23 it's used in
24 the first sentence?

25 A. Yes, that's right.

1 Q. And in 5.24 it's used in the first
2 sentence also?

3 A. Yes, correct.

4 Q. Now, as I said, I don't want to go
5 through each one of these, but the description you have
6 just given us in terms of 5.13, that would apply in
7 each of these conditions also?

8 A. That's correct.

9 Q. I believe there is this concept of
10 the minimum information available associated with the
11 guidelines; is that correct?

12 A. That's correct.

13 Q. And you assume the most conservative
14 case in the absence of information; is that correct?

15 A. Basically, yes. The guidelines are
16 used in the most conservative fashion where you don't
17 have the minimum information requirements, yes.

18 Q. Yes. Who is required to collect the
19 additional information before you can move away from
20 that conservative position?

21 A. Well, normally it would be Ministry
22 staff.

23 Q. It would not be the party that's
24 undertaking the activity?

25 A. The forest industry?

1 Q. Well, that will obviously be a major
2 party in most of the area of the undertaking.

3 A. No, it would not normally be the
4 forest industry. It is normally the Ministry who
5 collects that information.

6 Q. If the forest industry was concerned
7 about an area of concern, would they be able to go and
8 collect the information and provide that to the
9 Ministry?

10 A. Well, the forest industry themselves,
11 I don't believe, would normally have the ability to do
12 that in a technical sense unless they have biologists
13 on staff who are experienced in doing that.

14 Q. I have to put a plea in here, there
15 is also consultants?

16 A. Correct.

17 Q. Now, who decides when that
18 information is collected that it is adequate, the
19 additional information, this minimum information?

20 A. The district biologist would normally
21 be the person to do that.

22 Q. And that would move up through the
23 process to the district manager as the normal
24 decision-making process in the Ministry; is that
25 correct?

1 A. You mean the decision as to whether
2 adequate information has been collected to meet the
3 requirements of the policy?

4 Q. Yes.

5 A. I suppose so, yes. I think in most
6 cases it would be pretty clear.

7 Q. Can we turn to page 5 which is in the
8 white section, the background portion of the
9 guidelines. Now, in the column there on the left-hand
10 side, the first column, there is five critical fish
11 habitats listed; is that correct?

12 A. That's correct.

13 Q. How are these habitats defined? How
14 would one go out and say that is -- I don't need to go
15 through headwater areas because we have been through
16 that I think, that one has been described I believe in
17 Exhibit 504, so I don't need to go through the
18 headwater issue.

19 But spawning areas, nursery areas and
20 migration areas, how would you physically go out and
21 say: Well, that is a migration area and, therefore, it
22 is a critical habitat?

23 A. You are referring to a migration area
24 specifically?

25 Q. Let's take that example. I would

1 like to know the definition for all three.

2 A. Yeah. I think that perhaps is not
3 the best example to use in the sense that later on in
4 the guidelines it is concluded that provided basic good
5 practice is used timber management is not likely to
6 affect fish migration.

7 So in a sense, fish migration does not
8 become an important factor in how these particular
9 guidelines are applied. It does become important in
10 applying the road guidelines.

11 Q. Yes, I am familiar with those.

12 A. Yes. But spawning areas, for
13 example, I believe there is a training message that--

14 Q. Yes, we are going to...

15 A. --relates to that.

16 Q. I am going to move to that actually.
17 What about nursery areas, is that also dealt with
18 somewhere?

19 A. It is not dealt with specifically in
20 a training message, no.

21 Q. Would you say most biologists know
22 what a nursery area is?

23 A. Yes, I believe they know what it is.

24 Q. And they would be able to go out in
25 the, if I can use the word, field and look at a lake

1 and say that's a nursery area?

2 A. I believe they would be able to
3 identify potential nursery areas for most of the fish
4 species that we featured in our management; in other
5 words, the major sports fish species.

6 Q. So the potential nursery area becomes
7 an area of concern?

8 A. Well, strictly speaking the shoreline
9 area adjacent to it becomes an area of concern.

10 Q. Yes. So it is not a matter of
11 demonstrating that is it a nursery area -- this looks
12 like an nursery area and, therefore, it becomes an area
13 of concern?

14 I realize it is sort of asking it the
15 same, but I just want to be perfectly clear that that
16 is what we are saying.

17 A. Well, I think the biologist has to
18 make a judgment as to whether a particular area has
19 real potential as a nursery area and that's basically
20 what he has to decide. And if he decides that in fact
21 it is a potential nursery area then, yes, it would be
22 protected as a critical habitat.

23 Q. We could reduce the burden on the
24 biologist by providing more detail in terms of what
25 constitutes a nursery area; is that not fair?

1 A. If we could do that to cover all
2 species, yes, I would agree.

3 Q. If I was to ask you -- I believe
4 there were five species that -- you referred to the
5 five primary sports species that the Ministry manages
6 for.

7 A. Five or six.

8 Q. And if I was to say to you for each
9 one of those: What is a nursery area, would you be
10 able to tell me in fairly definitive terms?

11 A. I would have to give it some thought,
12 but in general terms I think I could.

13 Q. Yes, but that hasn't been done yet?

14 A. It is -- that information would be
15 available to the biologist in various sources. It has
16 not been done in the form of a training message.

17 Q. Can we move on to the training
18 message which is Exhibit 492, and page 7, that portion
19 of it dealing with the fish guidelines. There is two
20 multiple page numbering and it is the second page 7,
21 whatever.

22 A. Yes.

23 MR. HANNA: I think the paper war is
24 catching up on us all, Mr. Chairman.

25 Q. Perhaps I can just read the section

1 that I am referring to, it may be quicker to do that.
2 It is page 7 and the title is: Spawning Areas and the
3 issue question is:

4 "How are spawning areas identified in
5 the..."

6 I believe it should be:

7 "...absence of actually seeing fish
8 spawn?"

9 And I want to deal with the first
10 paragraph of the response. And I believe, Dr. Allin,
11 it sets out -- the first sentence which describes
12 various habitat types indicates those will be
13 considered spawning areas. Is that correct?

14 DR. ALLIN: A. Yes.

15 Q. Now, it is the second sentence that I
16 would actually like to get clarified and that is this
17 matter where most of the lake is rock/rubble. Can you
18 just explain to me that line, that sentence?

19 Perhaps I should read the whole thing.
20 Or could you just read the whole thing and then explain
21 it for us, please?

22 A. The second sentence in the first
23 paragraph of the response reads:

24 "Where most of the lake is rock/rubble,
25 the most valuable area is that which gets

1 the most wave action from the prevailing
2 winds."

3 Q. Well, there seems to be two, if you
4 will, operative words there. The first is most of the
5 lake and therefore -- and the other is: What is the,
6 if you will, windward shore. How do you draw the
7 lines?

8 I am simply trying to get at how you
9 would actually draw the lines in that circumstance and,
10 if you will, I would be happy to have it shown on a
11 map. I find that quite useful.

12 I think your Exhibit 504 was extremely
13 useful to me. If you want to describe that to us in a
14 hand drawing, it would certainly make it easier for me
15 to interpret.

16 A. Perhaps I will just try and describe
17 it verbally first and, if that's not sufficient, we
18 will do something else.

19 The situation that's described there
20 occurs in some lakes where virtually the whole
21 shoreline may be rock/rubble. The situation the
22 biologist is faced with in that case is deciding
23 whether he is going to designate the whole shoreline as
24 critical fish habitat; in other words, potentially
25 spawning areas or not.

1 We know from the habitat requirements of
2 certain fish, such as walleye or lake trout, which use
3 rock/rubble typically as a spawning substrait, that
4 they are more likely to spawn in areas that have a good
5 current flow.

6 They may be wave washed or there may be
7 currents of other sorts along the shore, and all this
8 is saying is that in those situations the biologist may
9 wish to make a judgment as to where he feels the
10 greatest potential for spawning would be.

11 If, for example, the prevailing winds in
12 the area are from the south or the west, which is
13 typical in a lot of areas, then the most likely
14 spawning areas in terms of having suitable current
15 conditions would be on the east and north shores.

16 So in a case like that, if he has no
17 other basis on which to decide which areas are most
18 likely to be used, he might decide to focus on those
19 particular portions of the shoreline, the east shore
20 and the north shore, and he may choose not to give
21 particular protection to those rock/rubble areas on the
22 west or south shorelines. It's just a particular
23 circumstance that the biologist may be faced with in
24 some lakes.

25 Q. I think you described very well the

1 problem. I'm not sure I clearly understand how you
2 resolve it. I'm trying to be specific here, that's
3 where I am coming from, Dr. Allin. And I understand
4 your explanation, I don't understand how you make a
5 decision?

6 THE CHAIRMAN: Well, you just make a
7 judgment; do you not?

8 DR. ALLIN: Yes. I mean, basically you
9 have two choices; you either protect the whole
10 shoreline and assume that all of it is used as spawning
11 habitat, or you make your best judgment as to where the
12 most likely areas would be, the areas of highest
13 potential. And, as indicated there, those are the ones
14 which receive most wave action from the prevailing
15 winds.

16 MR. HANNA: Mr. Chairman, I guess it is
17 somewhat similar to the two times rule that we have
18 spoken about in terms of the Moose Guidelines. In
19 other words, what does flexibility mean, how far can
20 you go and so they provide some sort of direction. And
21 all I am trying to get is if there is some specific
22 direction or some way in which that can be more
23 specific.

24 THE CHAIRMAN: I think the answer is
25 simply the biologist applies his professional expertise

1 and makes a judgment. There are no further directions
2 that the biologist is under; is there?

3 DR. ALLIN: That's correct. That was
4 about as specific as we felt we could go.

5 MR. HANNA: Q. I have a couple of other,
6 just points of clarification in the guidelines
7 themselves and I am finished I think, Dr. Allin.

8 If we could look at 5.23 on page 1 in the
9 green section of Exhibit 303. Now, I am looking at
10 Section (c) there, and we have discussed this before,
11 and I am just wondering if you can give us any further
12 elucidation as to what is meant when it says:

13 "No more than 50 per cent of the
14 shoreline should be cut by these methods
15 and any clearcutting should occur, where
16 feasible, in non-contiguous blocks or
17 strips."

18 Can you be more specific in what you mean
19 by non-contiguous blocks or strips?

20 DR. ALLIN: A. Yes. The preference
21 there is where it is feasible to break up the cut and
22 not, for example, have one entire shoreline of the lake
23 clearcut and the other side not cut at all.

24 In terms of impacts on water quality and
25 aquatic habitat, it seems to us preferable to restrict

1 the locations of clearcutting near the shore such that
2 you don't have one very large clearcut and you try to
3 break it up through block cutting or whatever other
4 pattern would do that.

5 Q. But there is no specific direction
6 like there is in the Moose Habitat Guidelines that the
7 block should be three to five hectares or that sort of
8 thing?

9 A. No, and I don't think that you could
10 provide that specific direction because the locations
11 in which clearcutting becomes a possibility under the
12 use of the Fish Guidelines are locations where there is
13 not any critical fish habitat or locations where
14 cutting might affect critical fish habitat down current
15 or downstream or whatever.

16 So that the actual locations of the
17 critical fish habitat really determines where there is
18 any possibility of that type of cutting occurring. So
19 I don't really think it would be possible to specify a
20 dimension, for example, of the size of a cut.

21 Q. But I understood what you were saying
22 is, in those areas where there is not these critical
23 fish habitats -- where there are critical fish habitats
24 we end up with blocks, and I think that's clear?

25 A. Right.

1 Q. But in the areas where there is not
2 critical fish habitat, I think what you are trying to
3 get at is there may be 50 per cent of the shoreline
4 where there is no critical habitat and even in those
5 circumstances you prefer not to see it totally
6 clearcut, you would like to see it put into blocks?

7 A. That's correct, yes.

8 Q. What do you mean by blocks? Have you
9 any direction that you can give us in terms of what is
10 meant there by blocks comparable to, as I say, what we
11 have talked about in terms of the Moose Guidelines?

12 A. Do you mean in terms of a physical
13 dimension?

14 Q. Certainly that would be excellent.
15 Whatever way that you feel would be most explicit to
16 say what is meant?

17 A. Any judgment I would make would be
18 very arbitrary. I am not prepared to do that.

19 Q. Would you expect there to be a
20 critical fish habitat in every lake that has productive
21 sports fish?

22 A. Well, if you have a lake whose
23 fishery is entirely based on stocking, you have a put
24 and delayed take situation, then you may not have
25 critical fish habitat in the sense that you would not

1 probably have spawning habitat in a situation like that
2 and you would not be relying on nursery habitat because
3 you are stocking the fish.

4 So there could be situations where
5 critical habitat would be certainly limited.

6 Q. Okay. In a situation where you have
7 a self-sustaining population that's not stocked, would
8 you expect in all such lakes to have critical habitat
9 in those lakes?

10 A. Yes, I would.

11 Q. Can we look on page 1 again at
12 condition 2?

13 A. Guideline No. 2, yes.

14 Q. Yes, guideline No. 2. The last
15 paragraph. It is relating to this matter of blowdown
16 and increasing the width. How will this be determined,
17 the greater width?

18 A. Well, again, that would have to be
19 determined through discussions between the biologist
20 and the forester. I think the biologist would
21 basically have to rely on the judgment of foresters in
22 the district as to the potential for blowdown in a
23 given situation. And--

24 Q. I'm sorry?

25 A. --and, as we have heard, that depends

1 on many factors.

2 Q. No, I appreciate that. And the
3 intent then is to have any blowdown that occurs outside
4 the width of the area of concern which you are wishing
5 to maintain?

6 A. That's right. As I understand it,
7 the potential for blowdown is greatest at the cut edge
8 of the reserve. So that the larger the reserve, the
9 greater the likelihood that where blowdown occurs on
10 the corners or on the exposed edge of the reserve will
11 be removed from the lakeshore or stream.

12 Q. Mr. Hynard, do you remember in your
13 evidence talking about some slides and showing the
14 Board some residual cuts and saying: I expect
15 ultimately that will all blow down.

16 I know that's rather general, but perhaps
17 you can help me. You were referring to a specific
18 slide. I can go back and --

19 MR. HYNARD: A. Oh, yes. I recall that
20 we were -- the slide was of a group seed tree cut in
21 black spruce on lowland sites.

22 Q. That's correct, yes.

23 A. And I was referring to the seed trees
24 that were left standing as a source of seed, and I said
25 they would eventually -- presumably eventually all blow

1 down but their purpose would have been served.

2 Q. Right. And what was the size of that
3 group seed tree patch that you were referring to?

4 A. 20 square metres, I recall.

5 Q. So if it was 30 square metres it
6 wouldn't all blow down?

7 A. Oh, gosh, I don't know.

8 Q. Perhaps I can answer -- instead of
9 beating around the bush now, let's deal with it
10 directly.

11 A. Yes.

12 Q. I guess the concern I have it is, I
13 got the sense from what you said is that once you start
14 blowdown the whole stand goes and I--

15 A. No.

16 Q. --am thinking we can end up with a
17 potential here of having a block of, as Dr. Allin has
18 explained to us, we can have this block of trees that
19 are around a small area that could be a critical fish
20 habitat and we might say: Well, we will go back
21 another 10 metres or whatever, but there is a
22 possibility the whole thing blowing down on us?

23 A. I'm really not -- blowdown occurs
24 most in spruce, black spruce is probably the most
25 susceptible species and I don't have a lot of personal

1 experience with it. But I do know that the greatest
2 degree of blowdown occurs around the edge.

3 Now, in theory you could have this domino
4 effect, the edge trees go down and the next year some
5 more go down and eventually this domino spreads across
6 northern Ontario, but in fact that doesn't seem to
7 happen.

8 The extent of the blowdown is finite, and
9 I really couldn't give you a handle on how far to
10 expect that blowdown to go without knowing the
11 specifics and really without -- well, without knowing
12 the specifics.

13 Q. But in general what you are saying,
14 it's fairly limited to the edge of the stand because it
15 doesn't -- we don't end up with dominos?

16 A. That's right.

17 THE CHAIRMAN: And in a natural situation
18 where you have trees growing down to the shore of a
19 lake, you will either get blowdown or you won't get
20 blowdown without any influence of man anyways?

21 MR. HYNARD: Yes. Edges of lakes you
22 wonder at the edge of a stand, why are the trees not
23 all blowing down at the edge of the lake. And the
24 reason for that is the trees that are grown in the
25 open, or partially in the open have -- they have larger

1 crowns, they have wider spreading root systems, they
2 tend to be more windfirm if they have grown during
3 their life exposed to wind but, more importantly, with
4 the ability to develop a better root system.

5 So the trees along the lake's edge itself
6 would not be as vulnerable to blowdown as those at the
7 cut edge behind the reserve.

8 MR. HANNA: Q. Right. The concern here
9 though isn't the trees at the edge of the lake, it's
10 the trees at the edge of the cut behind the lake. That
11 is where we are concerned about blowdown; is that not
12 right?

13 MR. HYNARD: A. That's right.

14 Q. Now, in the case, Dr. Allin, of
15 preparing this additional buffer, would that be part of
16 your rationale in the material that you would provide
17 as part of the timber management planning -- the timber
18 management planning?

19 DR. ALLIN: A. I would assume it would
20 be, yes, because that could be a reason for having an
21 exception to the guidelines in the sense of what is
22 laid out in Guideline No. 2.

23 MR. HANNA: Mr. Chairman, those are my
24 questions for Dr. Allin.

25 THE CHAIRMAN: Thank you.

1 MR. HANNA: Q. Mr. Greenwood, I
2 apologize for keeping you up last night with the
3 material.

4 THE CHAIRMAN: Just so we get a sense of
5 where you are going, are you going to be dealing with
6 Mr. Greenwood, and then where do you go from here?

7 MR. HANNA: Mr. Chairman, I had enough
8 material to go all of today and another two days with
9 Dr. Euler and obviously that wasn't on.

10 And so what I have decided to do is to
11 deal with the other panelists and then to go back and
12 deal with Dr. Euler on the key issues that I can, to
13 the extent that I can, in the time that is available.

14 So I will probably be spending, I would
15 estimate probably -- maybe three quarters of an hour to
16 an hour with Mr. Greenwood, and then I would like to go
17 back to Dr. Euler and, as I say, deal with as many of
18 those subjects as I can before we break this evening.

19 THE CHAIRMAN: Well, okay. It would
20 normally be the Board's intention to break towards the
21 latter part of the afternoon, like in your case 5:00,
22 5:30, 6:00, something like that.

23 I mean, I indicated that we are going to
24 finish with your cross-examination one way or the other
25 today, even fit means sitting all night because we have

1 Mr. Hunter scheduled for first thing tomorrow morning,
2 but I take it that even in your planning you are
3 expecting to finish at some hour this afternoon before
4 midnight?

5 MR. HANNA: Before midnight. Mr.
6 Chairman, yes. In all fairness, sir, I can't go that
7 long and I just haven't got the physical strength
8 after --

9 THE CHAIRMAN: We probably can't either,
10 but we will if necessary.

11 MR. HANNA: Well, I appreciate that
12 offer, Mr. Chairman. It's not my intention. To be
13 quite frank with you, I have to catch the nine o'clock
14 plane because I have to go and prepare for another
15 major EA tomorrow.

16 THE CHAIRMAN: Well then, why don't we
17 sort of structure the thing, if we can, and we will try
18 and take a -- keep the breaks down to reasonable
19 amounts but try and finish off if we can around no
20 later than six. I think that puts in a fairly full day
21 for everybody.

22 MR. HANNA: It certainly does, sir. I
23 will do my best.

24 MR. FREIDIN: Mr. Chairman, I just want
25 to make a comment about the time problems that Mr.

1 Hanna is having.

2 I understand that there is a concern
3 about accommodating Mr. Hunter because he is sort of
4 likes -- or he has to sort of come in and leave and he
5 can't be around for the whole proceedings. And I think
6 that it's appropriate that Mr. Hanna not continue
7 tomorrow so that we can accommodate Mr. Hunter in the
8 circumstances, however, I would submit that Mr. Hanna
9 should have an opportunity -- subject to the usual
10 controls of the tribunal in terms of relevancy and
11 direction and that sort of thing, should be given the
12 opportunity to examine any member of this panel to the
13 extent that he believes is necessary, again subject to
14 perhaps going beyond the bounds of relevancy.

15 And in light of that, I would like to
16 indicate to you, Mr. Chairman, that having this panel
17 being cross-examined by Mr. Hanna next week if
18 necessary in order to address or to allow that
19 cross-examination to occur in the manner that I have
20 described, is a procedure which the proponent has no
21 objection to.

22 And I just wanted to -- and an additional
23 reason for that, Mr. Chairman, is that it is a long day
24 for everyone when we go late into the evening and I
25 don't believe that we necessarily get the best evidence

1 which is available.

2 And that is another reason, I think if we
3 have to trade off keeping the witnesses under
4 cross-examination for a lengthy period of time, it
5 shouldn't be done at the expense of affecting the
6 quality of the information which is being put forward
7 before the Board.

8 THE CHAIRMAN: Well, okay. Let me just
9 address that briefly, Mr. Freidin, now that you have
10 raised it.

11 It should be clear to all the parties
12 that the Board is in no way attempting to restrict the
13 rights of the parties to effect their
14 cross-examination. By the same token, the Board has
15 the statutory power in its view to ensure that
16 cross-examinations are both kept relevant and are not
17 repetitive and deal properly with those areas that are
18 the subject of cross-examination.

19 And in terms of your cross-examination,
20 Mr. Hanna, we realize that this panel, as well as other
21 panels, are dealing with evidence that is certainly
22 relevant to your client's interest and there is no
23 question about that; by the same token, the Board now
24 has spent -- or will have spent, by the end of today,
25 some four to five days in cross-examination of this

1 panel and we feel in many instances we have allowed a
2 reasonable degree of latitude as to how the
3 cross-examination is being conducted and what areas the
4 cross-examination is covering.

5 But it is our view that there are even
6 limits to that. And I am quite sure parties can stand
7 up if they want and cross-examine a panel if they
8 choose for two weeks, three weeks or a month. There
9 comes a time when the efficacy of doing that and the
10 value of that cross-examination to the Board is in some
11 cases jeopardized.

12 Now, I think we have to understand that
13 part of the purpose of this proceeding is, of course,
14 to include the public in the process to clarify the
15 evidence, not only for the public but also for the
16 Board. But the Board is charged under the process with
17 rendering the decision and ultimately deciding upon the
18 evidence and applying the law, the statutory
19 provisions, et cetera and there has to be, in our view,
20 some control of this process.

21 The process, as many of you are aware,
22 has been criticized soundly in a variety of quarters
23 concerning the amount of time that is spent in terms of
24 presenting evidence and in terms of accommodating what,
25 in our jurisdiction, is essentially an adversarial

1 process.

2 The rules of evidence before a proceeding
3 like ours are much less restrictive than those found in
4 a court of law in terms of what can be admitted and the
5 latitude given to the parties to put in evidence and
6 the rules of relevancy are interpreted by the Board in
7 a very liberal fashion as well.

8 And all we are saying, that we are
9 certainly not attempting in any way to restrict your
10 cross-examination, what we are attempting to do with
11 all of the parties is to focus the cross-examination in
12 a manner wherein it can be accommodated within a
13 reasonable period of time.

14 And we feel, based on the evidence put in
15 by this panel - and we have no idea what the remainder
16 of your cross-examination contains obviously - but we
17 feel that the time that has been spent to this point
18 and to the end of the day should allow you a reasonable
19 opportunity to obtain and provide you with the ability
20 to test this panel's evidence in the light of your
21 client's interest. That is all we are saying.

22 So I want to make it clear to the
23 parties, it is not entirely a 100 per cent open-ended
24 process. So that when a party stands up, essentially
25 if they say we want to go for six weeks on a particular

1 panel in terms of cross-examination that the Board is
2 going to be expected to listen for six weeks and yet,
3 at the same time, allow the flexibility and the
4 latitude that it tries to allow all parties.

5 If it is going to get into that kind of
6 situation, we may well have to become much more
7 restrictive in terms of the scope of the questioning,
8 the relevancy of the questioning and dealing with
9 anything which is repetitive.

10 And again, it is very difficult in this
11 kind of case to apply that kind of guidance
12 procedurally because there is so much overlap amongst
13 the various panels and we understand that, but we also
14 don't feel that you will in any way be prejudiced
15 because of that very overlap.

16 Some of these witnesses are going to
17 reappear later on, some of these same issues are going
18 to be canvassed in later panels and, of course, the
19 parties have the opportunity to present their own
20 evidence.

21 So -- and this isn't by way of a lecture
22 or dissertation directed at you, Mr. Hanna, it's in
23 response essentially to Mr. Freidin's comments a few
24 minutes ago. We would like to see, if we can, possibly
25 finish this cross-examination by the end of today and

1 then move on to Ms. Seaborn and re-examination and then
2 move on to Panel 11.

3 MR. HANNA: Mr. Chairman, for the record,
4 I realize precisely what you said and quite honestly I
5 don't envy the difficulty in trying to make those
6 decisions. I think it is a difficult decision and I
7 accept your decision in this case.

8 Just two things I just mention in
9 response to that. First of all, this hearing is
10 somewhat unusual, at least from my client's point of
11 view. My experience often is, when you are an
12 intervenor you try to make the hearing go as long as
13 possible because you don't want the action to happen.
14 So, as I say, there is - how do you say -- there is
15 some sort of incentive to protract the hearing.

16 THE CHAIRMAN: Well, I would hope that
17 intervenors certainly don't have that objective in mind
18 because that is part of the problem and I think part of
19 the concerns that people have with the process in
20 general.

21 It is a lengthy process, it is an
22 expensive process, it costs everybody, and all we are
23 saying basically is, is that we are in charge as a
24 Board of managing the process and that is why we feel
25 we have to place some limits on certain aspects of the

1 hearing and that includes cross-examination.

2 MR. HANNA: And I wholeheartedly endorse
3 what you are saying, that is all I was just saying. In
4 this particular circumstance, we are not trying to
5 protect it and we appreciate the cost and expense and I
6 just mention that to the Board.

7 The only other thing that I would mention
8 is that we see certain panels as being potentially
9 pivotal and I think we did that with Panel 8, Panel 10
10 is one, Panel 14 perhaps, 15 and maybe one other and
11 that is -- so we tried to balance those sort of things.

12 But I appreciate fully what you are
13 saying and I will do everything I can in my power to
14 finish. In fact, as I say, we will finish at six
15 o'clock tonight and we will get as far as we get and
16 Dr. Euler is coming back and perhaps the Board will
17 give me a little leniency when we get to Dr. Euler
18 again to perhaps cover something, obviously not go back
19 and do anything we have already done before, but if
20 there is a few dangling participles we can perhaps deal
21 with those.

22 THE CHAIRMAN: Well, we will deal with
23 that at a subsequent time.

24 MR. HANNA: Yes, Mr. Chairman.

25 THE CHAIRMAN: Mr. Freidin?

1 MR. FREIDIN: I am not sure whether Dr.
2 Euler is coming back. In fact, if that is somehow
3 affecting Mr. Hanna's thinking about this matter, I am
4 not sure that Dr. Euler is coming back.

5 THE CHAIRMAN: But some of the areas that
6 you want to deal with, Mr. Hanna, will be covered by
7 subsequent panels; will they not?

8 MR. HANNA: I guess the reason, Mr.
9 Chairman - and I don't want to go into a long extended
10 discussion of this - but Dr. Euler is coming forward
11 as, if you will, Dr. Guideline, Dr. Moose Guideline of
12 the Ministry and the guidelines deal with all elements
13 of the activity; it doesn't deal just with harvesting,
14 it deals with all of the elements.

15 Because he was on this particular panel,
16 we had hoped to deal with issues that might come up in
17 the future with respect to the guidelines per se
18 because he is the expert on that issue. So that was
19 the reason for our questioning.

20 THE CHAIRMAN: Well, listen, there is
21 nothing wrong with questioning Dr. Euler on the moose
22 guidelines. All we are saying basically is: Try if
23 you can to focus your questions on the guidelines, he
24 is here now, and we will get on with it and be done
25 with it.

1 What we are saying is: We don't want to
2 leave a bunch of issues to later panels. We have done
3 that throughout the case, as everyone well knows, and
4 Panel 15 I am sure is going to be the block buster of
5 them all, and we can't do that with every panel. It is
6 just that we are going to load up the back end of the
7 hearing instead of the front.

8 MR. HANNA: Mr. Chairman, let's get on
9 with it and deal with that. I agree with what you are
10 saying. I promise you I will finish at six tonight.

11 THE CHAIRMAN: Okay, let's go.

12 MR. HANNA: Q. Mr. Greenwood --

13 MR. HANNA: Perhaps before I start, I
14 should tell the Board just what the issues are I would
15 like to deal with with Mr. Greenwood.

16 THE CHAIRMAN: Go ahead.

17 MR. HANNA: As I mentioned, I believe
18 when I was giving you my overview in terms of where I
19 see the Federations's case might go, I see soil
20 compaction as being one of those things that this Board
21 is in a good position to deal with, site damage type
22 impacts and soil compaction being the one that I am
23 particularly focusing on and that is something I would
24 like to pursue with Mr. Greenwood.

25 I would like to see if - he has already

1 given us some evidence in terms of the way that the
2 Ministry deals with it, I believe he spoke to the black
3 spruce guidelines and mention here's a way that we deal
4 with it. I would like to just pursue that a little bit
5 more and just see specifically how we can possibly go
6 about dealing with this issue of soil compaction.

7 Mr. Greenwood has given in his evidence
8 the view that he has not seen large impacts associated
9 with clearcutting and I would like to explore that with
10 him, particularly with regard to the report that we
11 entered I believe yesterday, the Proposed Policy for
12 Controlling the Size of Clearcuts.

13 I would like to perhaps get his view and
14 I believe he has had a chance to look at it over the
15 night in terms of his interpretation of that report
16 relative to his evidence.

17 And the last issue I guess is one of the
18 comprehensiveness of his evidence in terms of, he has
19 provided, for example, in his witness statement a 1973
20 report of the President's Advisory Council and I want
21 to explore with him, if there is any more current
22 information that might possibly be available and how
23 that might bear on his evidence.

24 So those are the three areas that I would
25 like to pursue with Mr. Greenwood.

1 THE CHAIRMAN: Mr. Freidin?

2 MR. FREIDIN: Apropos of my earlier
3 remarks, I don't think that I would necessarily sit
4 still if we get into a repetition of the
5 cross-examination that took place of Mr. Armson on that
6 proposed policy.

7 THE CHAIRMAN: You recall that that was
8 covered to some extent by Mr. Armson?

9 MR. HANNA: Yes, it was. Perhaps when I
10 get into that, Mr. Chairman. I have reviewed it and I
11 can't say I have done it in depth, I have looked at it
12 and perhaps the Board will give me direction and say
13 that has been dealt with and I will take that
14 direction.

15 THE CHAIRMAN: Well, it has certainly
16 been dealt with. If you want to deal with something
17 else that this witness can deal with that he dealt with
18 in his direct evidence--

19 MR. HANNA: Yes.

20 THE CHAIRMAN: --that is another
21 question. Remember, cross-examination is on the direct
22 evidence given by these witnesses.

23 MR. HANNA: It is dealing specifically
24 with the direct evidence.

25 THE CHAIRMAN: Not other witnesses.

1 MR. HANNA: No, absolutely, sir, this is
2 dealing with Mr. Greenwood's evidence.

3 Q. Now, Mr. Greenwood, you recall that
4 when we were talking about soil compaction several
5 weeks ago and you presented the optional season of
6 harvest column in the black spruce silvicultural
7 groundrules?

8 MR. GREENWOOD: A. Yes, I do. This was
9 in reference to cross-examination of another witness
10 and I presented silvicultural groundrules which are
11 contained within the spruce silvicultural guide.

12 Q. Yes, that's correct. And I believe
13 at that time you indicated there was only a limited
14 number of areas that soil compaction was a problem and
15 I believe you mentioned the Clay Belt and organic
16 sites.

17 A. I think I referred specifically to
18 organic sites which are very prevalent within the Clay
19 Belt and that those sites do exist elsewhere, but
20 because of their limited prevalence, the option of
21 harvesting in the winter season was a very real option
22 which was not the case within the Clay Belt area.

23 Q. Is it your view that soil compaction
24 can occur on sites other than organic sites?

25 A. Yes, soil compaction can occur on any

1 site in that the compaction that we discussed the
2 compression of the soil can obviously occur anywhere
3 where there is soil.

4 Q. And is it your view that it can be
5 significant on any other mineral soil?

6 A. No, I would not agree that it could
7 be significant on any other mineral soil. There is a
8 difference between the -- within those mineral soils.

9 Q. So there is some that are sensitive
10 and some that are not sensitive?

11 A. That's correct.

12 Q. Have you defined in your evidence
13 anywhere those that are sensitive and those that are
14 not sensitive?

15 A. Yes, I did. I described the
16 parameters which would in fact describe the soils both
17 in my evidence and in my evidence-in-chief -- my
18 written evidence, evidence-in-chief and in fact gave
19 examples in my evidence-in-chief.

20 Q. Yes, I have read that, but -- and
21 perhaps the easiest thing to do is to turn to Exhibit
22 529 -- 519, excuse me.

23 A. I am afraid my numbers were somewhat
24 mixed up this morning when I heard you referring to
25 them. Maybe we could just do through which is which

1 again.

2 Q. Yeah. Okay, why don't we do that.

3 MR. HANNA: I have 519 as the Van
4 Kesteran ran report. Is that correct, Mr. Chairman?

5 THE CHAIRMAN: I think so. Yes, it is.

6 MR. GREENWOOD: And can we just
7 straighten the other ones out.

8 MR. HANNA: Yes. And 520 is the Standish
9 report?

10 THE CHAIRMAN: That's correct.

11 MR. HANNA: And 521 is the Corns report?

12 THE CHAIRMAN: That's correct.

13 MR. HANNA: Mr. Chairman, I did not mark
14 the exhibit for Dr. Carr's. That is the one I
15 introduced.

16 THE CHAIRMAN: That is 523.

17 MR. HANNA: So 523 is Mr. Carr's.

18 MR. GREENWOOD: And therefore the
19 proposed policy was -- was it given an exhibit number
20 or was it considered introduced earlier?

21 MR. FREIDIN: 522.

22 MR. HANNA: Mr. Chairman, perhaps this
23 will just make things even more complicated. 522, this
24 proposed policy, this is a different version than the
25 one that has been introduced.

1 THE CHAIRMAN: I know it is a different
2 year. It has also got a different date, I believe.

3 MR. HANNA: Yeah, I think it is a
4 different date. I haven't gone through a word-by-word
5 check but it looks very similar to exhibit -- I believe
6 it has already been introduced.

7 If it is going to mess up the numbering
8 system, we can leave it in if it's really redundant and
9 it's the same -- it's basically just the same thing,
10 just a different version of it, I am quite prepared to
11 have it taken out. I would like to use this one now
12 because I have it marked up, but it makes no
13 difference.

14 THE CHAIRMAN: Well, I think we might as
15 well leave the exhibit as 522 and this will be the one
16 that you are referring to with these witnesses.

17 MR. HANNA: Fine.

18 THE CHAIRMAN: It may contain so
19 amendments in there, it may not.

20 MR. HANNA: I am just trying to deal with
21 the paper war as best as we can, sir.

22 MS. BLASTORAH: Mr. Chairman, perhaps
23 just for clarification. There were two versions of
24 this marked previously. I believe the first one was
25 Exhibit 517 which was a different dated version,

1 apparently another draft. Also in response to an
2 undertaking given on Panel 4, that response was filed
3 as part of Exhibit 419A and there was also a copy of
4 the proposed clearcut policy marked as part of that
5 response and I believe it appears to be the same as the
6 one that has now been marked as Exhibit 522. It is
7 also dated June, 1976.

8 THE CHAIRMAN: All right. So why don't
9 we just mark on 522 June -- what did you say '86?

10 MS. BLASTORAH: '76.

11 MR. FREIDIN: '76.

12 THE CHAIRMAN: Sorry, June, '76 version.
13 Okay.

14 MR. HANNA: Q. Mr. Greenwood, now if you
15 could turn to 519.

16 MR. GREENWOOD: A. Yes, I have it.

17 Q. What I would like to deal with is on
18 the first page there under introduction. It is the
19 third page of the exhibit -- it is the last page of the
20 exhibit.

21 A. Yes, I have it.

22 Q. Perhaps the easiest thing is for you
23 just to read that first paragraph. In fact, it is
24 probably not necessary to read the whole paragraph,
25 just the part that is in quotes is probably adequate.

1 A. "In the final analysis skidder
2 logging operations following conventional
3 procedures create ground disturbances
4 which could result in substantial site
5 Deterioration and reductions in long-term
6 site productivity. Consequently every
7 effort must be made especially under
8 Intensive forest management, to minimize
9 impacts by reducing site damage at
10 the operational stage in timber
11 harvesting."

12 Q. Thank you. Now, you have had a
13 chance to read this article?

14 A. I reviewed it briefly last night.

15 Q. Okay. Perhaps you can tell me, there
16 is a number of papers there referenced Wells and
17 Roberts, Case and Rowe, Case and Donnelly. Have you
18 referred -- have you read any of those papers?

19 A. No, I have not.

20 Q. So this is a new conclusion for you,
21 this particular one, the fact that Case and Donnelly
22 came to this conclusion?

23 A. I wouldn't exactly say that and I
24 would have to qualify it on the basis that when I read
25 through this last night, the first thing that came to

1 mind was that I wasn't exactly sure what they meant by
2 skidder logging operations following conventional
3 procedures. What exactly are they including in that
4 statement.

5 And I think I found some hint to that two
6 paragraphs down where they talk about overall road
7 network design and road construction. I think that
8 this -- these authors - and not having reviewed their
9 paper - are including road construction in those
10 conclusions. And certainly if they are including road
11 construction in those conclusions, that is not a new
12 conclusion for myself.

13 Q. When you say road construction, are
14 we talking about primary roads, secondary roads? What
15 are you referring to there?

16 A. I am referring to primary roads,
17 secondary roads and tertiary roads.

18 Q. So you are saying that on a primary
19 road we have soil compaction?

20 A. We certainly do, we hope so.

21 Q. Yeah, that is what I am saying, that
22 is not a great revelation to anyone?

23 A. That's correct.

24 Q. And likewise on secondary roads or
25 even tertiary roads?

1 A. Possibly on a secondary, seldomly on
2 a tertiary.

3 Q. So we don't have soil compaction on
4 tertiary roads?

5 A. I'm sorry. I'm sorry there would be
6 compaction in all cases. I was referring to my first
7 comment which was I would hope so in that in the
8 primary roads it would be a prescription to compact
9 that road. It wouldn't always be a prescription in the
10 secondary or tertiary roads.

11 Q. So you are saying you can't comment
12 on this conclusion because you haven't read it; is that
13 correct?

14 A. No, I read the conclusion and I'm
15 saying --

16 Q. No, I'm speaking of this paper. You
17 can't comment on the conclusion these authors have come
18 to because you haven't read the paper the Case and
19 Donnelly paper of 1979?

20 A. That's correct. Your question was
21 whether this was a new conclusion to me and I am saying
22 I couldn't tell you whether it was a new conclusion or
23 not unless I knew what they had included in skidder
24 logging operations following conventional procedures.
25 Which procedures are they including.

1 Q. The paper by Van Kesteran sets out a
2 process to establish sensitivity to the soil
3 compaction; is that correct?

4 A. Yes, it does. Yes, it is.

5 Q. Is there a similar type of process in
6 Ontario?

7 A. Yes, there is. And I would just --
8 one little correction. I am not so sure that their
9 guidelines speak as directly to compaction as they do
10 to erosion.

11 Q. Do they not include both?

12 A. Yes, they do.

13 Q. And you say we have a similar type of
14 system in Ontario?

15 A. Yes, we do.

16 Q. And what --

17 A. Sorry, similar process. I didn't say
18 system.

19 Q. I'm sorry, I asked the question
20 system, or at least I meant to ask the question system.
21 Do we have a similar system in Ontario?

22 A. I guess I should explain why I
23 distinguish the two and then that will answer your
24 question.

25 When I led my evidence I talked about the

1 direct and indirect ways that we would take a look at
2 some of the factors of susceptibility. One of those
3 was aerial photointerpretation, specifically
4 interpretation of land forms, land forms which give you
5 some indication of texture and texture which is a key
6 component in compaction. That is a standard procedure
7 for foresters and that is why that process is at play
8 in Ontario.

9 These authors have taken that process and
10 they have documented it. And in the fact that it is a
11 documentation, I would suggest that into a system, that
12 that system isn't in place in Ontario. The process
13 which they are using is well established.

14 Q. So if I hear what you're saying,
15 you're saying: We have got a comparable process, we
16 don't have a comparable system?

17 A. That's correct.

18 Q. And it's also fair to say that we
19 could have a system if we wanted a system? These
20 gentlemen have developed one?

21 A. These gentlemen have developed. We
22 could develop a similar system, yes.

23 Q. Now, this system dealt with
24 Newfoundland; correct?

25 A. That's correct.

1 Q. Did it limit itself just to organic
2 sites?

3 A. No, it did not.

4 Q. In fact it dealt primarily with
5 mineral sites; is that not correct?

6 A. No, it covered the full range from
7 organic through to mineral.

8 Q. Thank you. Can we move on to
9 Alberta, and that's Exhibit 521?

10 A. I have it.

11 Q. Can you perhaps just -- without
12 reading through the complete abstract, can you perhaps
13 for the Board just encapsulate in simple words what
14 their conclusion was?

15 A. There is virtually, as I would see
16 it, two points that they are making. One is that they
17 have carried out a literature review examining the
18 potential impact of harvesting on physical soil
19 properties that would take place if one was to increase
20 biomass recovery on the site, and that -- the
21 suggestion was that any increased physical soil impacts
22 would result from an increase in traffic on existing
23 roads and trails or extra roads and trails that needed
24 to be built in order to obtain this extra biomass
25 harvesting.

1 Q. But they also concluded that given
2 the -- for these particular soil types that they were
3 looking at, and they were looking at mineral soil
4 types; is that correct?

5 A. If I read that correctly, that is the
6 case, yes.

7 Q. And for the soil types that they
8 observed, given the expected compaction that they would
9 predict with these types of machinery going over the
10 ground, that it would have a significant effect on the
11 growth of seedlings; is that not correct?

12 A. I don't see that in the abstract.
13 What are you referring to specifically?

14 Q. Perhaps I can read you the last
15 sentence.

16 A. I am referring -- is this 520?

17 Q. 521.

18 A. I'm sorry, I am in the wrong one.
19 Compaction of Forestry Equipment Effects on Conifer
20 Seedling Growth?

21 Q. It goes to show you I didn't
22 understand any of your answers. Can we start over
23 again perhaps on this.

24 A. I can understand why you didn't
25 understand my answers. I told you I was confused about

1 the exhibit numbers.

2 Q. We all get confused, Mr. Greenwood.
3 Can you perhaps try for this example to provide to the
4 Board a summary of what their conclusion is?

5 A. This particular study was a
6 scientific study where they examined compaction on four
7 different soil types in Alberta. They found that
8 compaction existed to some degree on all the sites.
9 They compared that compaction to control zones which
10 had not been harvested.

11 They then moved a growth study into a
12 laboratory, attempted to repeat the same compaction
13 that they found on the sites -- the variability in the
14 compaction that they found on those sites in the
15 laboratory, to grow seedlings in the laboratory on that
16 soil and to determine the growth rate following a
17 period of time.

18 And their conclusion was that nine
19 expressions of seedling growth were reduced with the
20 increased compaction. Again, this is nothing new if
21 you --

22 Q. It's nothing new that virtually all
23 of the sites had compaction damage?

24 A. Not at all. In my evidence-in-chief
25 I think I said the only way to totally prevent

1 compaction would be not to put equipment on it. You
2 compact the soil when you walk across it.

3 So if you are going to measure in an
4 experimental way bulk density increases as a result of
5 pressure on the surface, you are going to get
6 compaction virtually from any movement on the site.
7 The question is whether it is significant or not in
8 terms of growth.

9 Q. And did these gentlemen not conclude
10 that in most cases significant reduction occurred?

11 A. They said that significant reduction
12 in nine growth parameters in the way that they
13 expressed it occurred, and I think we have to be very
14 careful how we interpret that.

15 There are a couple of things about this
16 paper -- and you will notice that they don't make
17 conclusions about that growth in the field, they are
18 talking strictly about a laboratory growth experiment.
19 There are some things that are different between the
20 field and the laboratory. In fact, the reason that they
21 moved to the laboratory from the field was that some of
22 the natural effects within the field would screen the
23 effects of compaction.

24 In other words, the compaction effect was
25 small enough on growth that they wouldn't be able to

1 see it because of the normal effects that would take
2 place on that site.

3 So that's something that reading it as a
4 forester and interpreting a piece of scientific
5 literature for field use is very important to me.

6 Another point would be that the
7 compaction that they grew their trees on was a
8 completely compacted cylinder, and yet the compaction
9 in the field, as we know, varies with depth. The most
10 serious compaction is at the surface of the soil and,
11 in fact, in their study they capsulized that into the
12 top 10 centimetres - 4 inches - and then it gets less
13 below that, where their seedlings were growing on
14 cylinders which were completely compacted to the same
15 rate.

16 So there are some things here that their
17 conclusions aren't totally correct. There was
18 reduction in growth. But reading it as a forester, the
19 conclusions in terms of what that means for field
20 growth isn't necessarily the same thing.

21 Q. Can you tell me as a forester what
22 work you have done in the field to demonstrate that it
23 is not a problem; what studies, research, whatever that
24 you have done?

25 A. Only my experience. I have monitored

1 an awful lot of trees that have grown.

2 Q. And you have monitored a lot of bulk
3 densities also?

4 A. No, sir, I haven't.

5 Q. Can we move to Exhibit 520, please.

6 Now, we have heard your summary of this, perhaps we
7 don't have to go back through the summary again.

8 Now, what do they mean here by increased
9 biomass recovery? What is your interpretation as a
10 forester?

11 A. Biomass is just the living matter
12 that's on the site. So increased biomass could be an
13 increased removal of any of the biomass from the site.

14 Q. I'm trying to put this in context for
15 the Board's benefit to see how this would compare to
16 forestry practices in Ontario, the example that they
17 are referring to here.

18 A. I also only had a chance to skim this
19 last night -- scan it, but if I'm not mistaken they
20 focused within their studies in B.C. at moving
21 throughout the site to remove more of the material from
22 the site, and the impression I was getting, in the time
23 I had to read it, was that is was more of the downed
24 woody material from the site.

25 Q. I'm sorry, I didn't get that term.

1 A. The downed woody material, the fallen
2 wooden material. So it may be deadfall that was within
3 the stand, it may be pieces of wood which would
4 normally be -- or logs which would normally be left on
5 the site in a more conventional operation, smaller
6 diameter, for instance. That was the impression I got
7 from the article.

8 Q. But they have concluded that there is
9 the potential for significant negative effects on
10 forest growth from soil compaction; is that correct?

11 A. Are you referring to the abstract?

12 Q. Well, it's in the abstract but you
13 have now read the paper also.

14 MR. FREIDIN: Well, maybe you can take
15 him to the place. I mean, he just read the paper
16 briefly overnight. If you want to take him to a
17 specific passage and get an answer, then you should do
18 that.

19 THE CHAIRMAN: Do you recall the
20 conclusion, Mr. Greenwood?

21 MR. GREENWOOD: Well, he doesn't really
22 make a conclusion, it's just virtually a literature
23 review. He has a discussion in summary at the end and
24 I think that's partly what is throwing me by your term
25 conclusion.

1 MR. HANNA: Q. I'm sorry, you are right,
2 Mr. Greenwood. You can't come to conclusions from
3 literature; can you?

4 THE CHAIRMAN: What's that supposed to
5 mean?

6 MR. HANNA: Well, I understood what he
7 was saying is you can't come to a conclusion from
8 literature.

9 MR. GREENWOOD: Mr. Hanna, that's not
10 what you asked me.

11 THE CHAIRMAN: That is not what he is
12 saying.

13 MR. GREENWOOD: You asked me what the
14 author's conclusion was, not what my conclusion was.

15 MR. HANNA: Q. Fine. Can you tell me
16 what's in the summary, please? Perhaps to just
17 expedite this and move on, they have identified soil
18 compaction as a potential problem in Alberta; is that
19 fair to say?

20 MR. GREENWOOD: A. Soil compaction is
21 one of the--

22 Q. Excuse me.

23 A. --areas they examined and it was my
24 understanding it was British Columbia.

25 Q. I'm sorry, it is British Columbia. I

1 stand corrected.

2 A. Okay. Yes, they commented on soil
3 compaction in British Columbia.

4 Q. Okay. Can we move on to Exhibit 523.

5 MRS. KOVEN: Excuse me, Mr. Hanna, what
6 is the date of Exhibit 520?

7 MR. HANNA: Oh, I'm sorry, Ms. Koven,
8 1988. It might be wise to put that on the exhibit. I
9 didn't realize that hadn't been copied on.

10 MR. GREENWOOD: Which exhibit, I'm sorry?

11 MR. HANNA: 523.

12 MR. GREENWOOD: I have it.

13 MR. HANNA: Q. Mr. Greenwood, just
14 before I deal with this, none of the articles that we
15 have dealt with, that we have just gone through are
16 listed in the material that you have provided to the
17 Board; is that correct?

18 MR. GREENWOOD: A. That's correct.

19 Q. Now, can we summarize quickly the
20 conclusion of Dr. Carr?

21 A. I'm sorry, I was just handed this
22 before the break.

23 Q. Okay. I will try and help you.

24 MR. FREIDIN: Can you just let him read
25 it, please.

1 MR. HANNA: Certainly.

2 THE CHAIRMAN: Mr. Hanna, I am having
3 some difficulty with the line of questioning in terms
4 of asking the witness to summarize what these authors
5 are doing.

6 I mean, if you are asking the witness
7 what his opinion is of their conclusion, that's
8 something else. But just to say to a witness who
9 hasn't read the material, hasn't introduced the
10 material during his direct evidence, to go through it
11 and say what do these authors say, doesn't mean a
12 thing, frankly, in terms of this panel's evidence.

13 You may want to introduce these through
14 witnesses of your own and introduce direct evidence to
15 say that the conclusions reached in these things are
16 the ones that should or should not be followed.

17 You can ask this witness if he agrees
18 with whatever conclusion there is, if there is a
19 conclusion, and leave it at that. It is not helpful to
20 have him summarize or go through what these authors do,
21 because it doesn't relate to his direct evidence.

22 MR. HANNA: Okay. Thank you, Mr.
23 Chairman.

24 Q. Do you agree with Dr. Carr's
25 conclusion with respect to this material?

1 MR. GREENWOOD: A. I assume that they
2 are pertinent conclusions for British Columbia. I
3 can't comment on that. He makes two things -- or he
4 makes two statements in here that would stand out in my
5 quick review. One is partway through the first
6 paragraph, it says:

7 "These systems..."

8 These are systems of harvest:

9 "...which can degrade 15 to 30 per cent
10 of a cut block."

11 I am not too sure what he means by
12 degradation, and certainly that would not be a
13 conclusion of mine in Ontario unless I knew exactly
14 what he was referring to as degradation.

15 The second thing would be the beginning
16 of the second paragraph where he states that:

17 "Ground-based timber harvesting can
18 result in extensive soil compaction,
19 nutrient displacement and accelerated soil
20 erosion. In the past, a number of
21 regional guidelines and procedures have
22 been instituted to minimize soil
23 degradation and to promote
24 rehabilitation."

25 So he is making two comments; first that

1 it can result in extensive soil compaction and, if I
2 read that and put some interpretation on it, I think
3 the implication is that it is significant, significant
4 in terms of growth. I would not agree with that
5 conclusion.

6 If the suggestion is that soil compaction
7 to some measurable degree takes place across the site,
8 I would agree.

9 Nutrient displacement, the same thing. It
10 is an element of significance that I think that I tried
11 to speak to in my evidence. I am not arguing for one
12 second that these things don't take place, it's this
13 degree of significance.

14 The same with accelerated soil erosion.
15 I think I led as well, soil erosion takes place
16 naturally, disturbance, whether it is caused by humans
17 or nature, accelerates soil erosion.

18 Q. Is \$80-million in annual timber yield
19 a significant impact?

20 A. Yes, it is.

21 Q. And is that not the conclusion that
22 this author came to? Excuse me, it is the last
23 sentence in the first paragraph.

24 A. That having been drawn to my
25 attention, he is making the conclusion that there has

1 been reduction in growth as a result of this.

2 Q. \$80-million per year?

3 MR. FREIDIN: Now, how does it help us to
4 apply to this author who is describing situations which
5 this witness says he can't even say apply in Ontario,
6 and it relates to something there that he says doesn't
7 apply to Ontario.

8 Does it help us at all to know whether it
9 caused 80-million or \$100-million...

10 THE CHAIRMAN: I have to agree with Mr.
11 Freidin, Mr. Hanna. This author says it, it is a
12 statement. He obviously is basing it on data or
13 studies he has conducted in B.C. It may have
14 absolutley no relevance whatsoever to Ontario.

15 MR. HANNA: One last question with the
16 witness and I am finished on this matter, Mr. Chairman.

17 THE CHAIRMAN: Thank you.

18 MR. HANNA: Q. Mr. Greenwood, can you
19 explain to me why the Ministry has not systematized the
20 matter of soil compaction, susceptibility of soils and
21 used the optional column of seasonal harvest type
22 approach to soil compaction?

23 MR. GREENWOOD: A. I think I can attempt
24 to speak to that topic, but recognize that I
25 probably -- as one forester within the Ministry. I

1 don't know of any one forester within the Ministry who
2 could answer that question, why the Ministry has not
3 done that.

4 I can speak to some aspects of that as to
5 why I think it may be a good or not a good thing to do
6 from my perspective, and that may reflect why the
7 Ministry has or has not chosen to do so.

8 THE CHAIRMAN: Is your answer basically
9 you don't know why the Ministry has chosen not to?

10 MR. GREENWOOD: I couldn't answer that
11 question, that's right. I mean, who is the Ministry?

12 THE CHAIRMAN: Okay. Then let's just
13 have your opinion, should they?

14 MR. GREENWOOD: These types of
15 considerations - and if I can use the example that you
16 gave from a Newfoundland study - are made now by
17 professionals in the field. It is part of the daily
18 decision-making that those professionals make.

19 They take as was systematized an
20 appropriate level of site information, they take an
21 understanding of the basic concepts of applied ecology
22 which they are trained to do, they examine factors of
23 susceptibility, having that knowledge, and they also
24 have a knowledge of the conditions likely to result
25 following the disturbance that they are planning,

1 whether it be harvest or whether it be site preparation
2 or one of the other components of the undertaking.

3 They then weigh those and combined with
4 the known objectives for the particular activity, they
5 make a decision. And the systemization of that process
6 that I just described, as described in the Newfoundland
7 study, I think is a good thing. I don't think that any
8 of us as professionals would argue against that type of
9 systemization. For one thing, it certainly allows us
10 to communicate better because we are focussing on the
11 same words and the same understanding.

12 Probably one of the largest driving
13 forces behind the forest eco-system classification is
14 just that type of systemization. I guess the problem
15 that I have with it, Mr. Hanna, is that I'm not sure
16 that in all cases it results in better decisions. So
17 the question I guess is in terms of its utility.

18 It certainly is useful, but if what we
19 are really concerned about is better decisions, then
20 you are back to people, people make decisions, not
21 systems.

22 And so in terms of why has the Ministry
23 not done this, it's a good question: Is it something
24 that would be useful? It probably would be useful. Is
25 it something that would result in better decisions with

1 less environmental effects? I'm not sure. If you have
2 got your professionals going through all the steps that
3 are necessary and weighing all of the factors which you
4 include in such a system anyways, then you should come
5 to the same conclusion.

6 That is maybe not as clear as it should
7 be, but maybe the only way would be to go to some sort
8 of an example and the example that jumps to mind very
9 quickly is this hearing.

10 We have a Board right now that is
11 listening to many factors, the factors of evidence, the
12 factors of points of views, values, facts and those
13 factors are going to be weighed by that Board in coming
14 to a decision. And I guess the question is: Could you
15 systematize that some way that would help them make
16 their decision.

17 You probably could, and I'm sure they
18 would be interested in knowing how they could do that,
19 but the question is: Would the Board arrive at a better
20 decision having such a system, recognizing that they
21 are going through the same process. And I think that
22 is the key question in terms of systemizing decisions,
23 whether they be foresters, whether they be Boards or
24 anybody else that are weighing a number of factors and
25 trying to come to a conclusion.

1 Now, having said all that, I'm for that
2 type of process because it does create better
3 communication between professionals and if you have got
4 better communication, then that may end up in better
5 decisions, at least better understanding. The question
6 I guess is whether it's absolutely necessary or, more
7 importantly, whether something negative is happening if
8 you don't systematize.

9 MR. HANNA: Q. Just one final point
10 here. Mr. Greenwood, I appreciate what you have said
11 and I'm sure the Board, before this is over, is going
12 to have heard more than enough about systematizing and
13 not systematizing whatever.

14 But from the point of view of the public,
15 the public having the concern about ensuring that, if
16 you will, our heritage is taken care of, would a system
17 not provide them with greater, as I say, evidence of
18 how that is being dealt with?

19 MR. GREENWOOD: A. I have heard you
20 mention two things now in the last few days about that
21 and I heard your comment earlier that you felt that
22 this was a way of creating some accountability and
23 traceability.

24 You also used a word - I don't remember
25 which day - transparent, and I know that that has

1 specific meaning when you are dealing with models. And
2 that got me thinking about what you were saying with
3 respect to accountability and traceability to the
4 public.

5 Now, when we use the word transparent
6 with respect to modelling that is generally
7 transparency to the user and transparency to the user
8 is not the same thing as transparency to the public.

9 OWOSFOP is such a model, it is such a
10 systemization, it is something that is used by
11 foresters to manipulate data because it is difficult
12 for them to do that strictly with their gray matter.
13 The decision still rests with them, but it is a
14 systemization and being a simulation model it is quite
15 transparent to the forester. The forester uses that
16 model because it gives him a better understanding of
17 the biology of what is going on out there.

18 But I'm not sure by presenting our
19 OWOSFOP runs at our open houses the public is going to
20 have any greater degree of traceability or
21 accountability because it is not transparent to them.

22 The same as this model that was developed
23 in Newfoundland, it is based on an understanding of
24 land forms and the relationship between land forms and
25 texture and the relationship between texture and soil

1 erosion.

2 If you put such a system before the
3 public they have to understand those relationships.
4 Those that do, now have a system of accountability and
5 traceability, I agree; but those that don't, are no
6 further ahead whatsoever.

7 Q. So we have to protect the public from
8 what they don't know?

9 A. That is not what I said.

10 MR. HANNA: I'm finished, Mr. Chairman.
11 I have some more questions of Mr. Greenwood, but I
12 think we should take the luncheon --

13 THE CHAIRMAN: All right. We will break
14 for lunch until two o'clock. Thank you.

15 --Luncheon recess taken at 12:30 p.m.

16 ---On resuming at 2:05 p.m.

17 THE CHAIRMAN: Thank you. Be seated,
18 please.

19 Mr. Hanna?

20 MR. HANNA: Q. Mr. Hynard -- excuse me.
21 Mr. Greenwood, I would like to just briefly go through
22 Exhibit 522 which is the June, '76 version of the
23 Proposed Policy for Controlling Clearcuts. Do you have
24 a copy of that?

25 MR. GREENWOOD: A. Yes, I do.

1 Q. Now, this has been discussed with Mr.
2 Armson so perhaps I'm looking at it from your point of
3 view to get your opinion on some of the statements in
4 here.

5 A. Maybe just as an opener, it is only
6 fair to advise you I worked quite closely with Mr.
7 Armson on this particular paper and, therefore, a lot
8 of my points of view were reflected in his evidence.
9 In other words, I agree mostly with what, not
10 completely, with Mr. Armson.

11 Q. Okay. Well, maybe what you can do is
12 just say Mr. Armson dealt with that before.

13 A. Okay.

14 Q. And we can just quickly move through
15 it. I appreciate that. There is no point in taking
16 time if you agree totally with Mr. Armson in that
17 respect.

18 Can we turn to page 2 first, please.

19 A. This could be difficult. I don't
20 have page numbers on my copy, I am afraid.

21 THE CHAIRMAN: Does anyone from the
22 Ministry have a copy that has page numbers that you
23 could switch with Mr. Greenwood?

24 MR. OLDFORD: (handed)

25 MR. GREENWOOD: I have it.

1 MR. HANNA: Q. Actually the paragraph I
2 want to refer to starts on page 1. It is the last
3 paragraph there that continues over on to page 2 and it
4 describes this -- how cutting has taken place and that
5 the timber is cut as its accessed, et cetera, et
6 cetera, and that there is a trend to increasing
7 mechanization which results in contiguous clearcuts.

8 Now, the first question is: Is this not
9 basically the same type of scenario that Racey were
10 putting out in exhibit -- the exhibit we were talking
11 about yesterday, Exhibit 518?

12 MR. GREENWOOD: A. It deals I think with
13 the same question, but I don't think it is the same
14 practice, no. In the sense that it deals with breaking
15 up the cut, yes.

16 Q. And can you just explain to me what
17 is meant by the trend and how it contributes to this
18 resulting in contiguous clearcuts. Do you see the
19 sentence I'm referring to? It says:

20 "The trend to complete mechanization and
21 utilization of all species has resulted
22 in contiguous clearcuts."

23 I'm interested in what that trend is
24 that's being referred to in there. If you have no...

25 A. I think the key of the trend is

1 utilization of all species. At that point in time in
2 the early 70s particularly poplar was becoming -- was
3 being utilized more often and, as a result, where in --
4 previous to that point in time there would have been
5 areas with residuals standing, this author is talking
6 about the trend to now removing that residual in
7 certain parts of the province.

8 Q. I see. Has utilization of poplar
9 gone up or down since 1976?

10 A. I haven't examined the figures, but
11 it would be my opinion it has gone up.

12 Q. Thank you. Now, the second paragraph
13 there provides a series of descriptions in terms of the
14 impacts of large clearcuts and, first of all, it deals
15 with this matter of exposure. That was dealt with by
16 Mr. Armson and you agree with his views?

17 A. I do.

18 Q. So the gentlemen who prepared this,
19 Flowers and Robinson, were wrong basically?

20 A. Again, I think Mr. Armson dealt just
21 with that topic, their opinions at that time.

22 Q. But this is something - I understand,
23 and I don't want to go back through all that. I just
24 want to make sure that that is your interpretation if
25 these gentlemen were wrong at that time?

1 A. I think we have information now that
2 more correctly describes what they were seeing as a
3 problem at that time.

4 Q. Thank you. And that deals also with
5 the wildlife habitat and aesthetics?

6 A. In what regard?

7 Q. Well, they are saying here there is a
8 major impact associated with wildlife habitat and
9 aesthetics. And I'm saying you also concur that that
10 is not the case?

11 A. No, not at all and Mr. Armson did not
12 either.

13 Q. Now, maybe this was dealt with
14 before, but the clearcuts that they were referring to
15 in '76 are different from the clearcuts today?

16 A. I think there is a difference in the
17 clearcuts today, but the various parameters of those
18 clearcuts that they were speaking to still exist today.
19 In other words, exposure is still a factor of a
20 clearcut today.

21 Q. Can we turn to page 3, and I'm
22 looking at the start of the top of the page where it
23 starts with 'smaller clearcuts'.

24 And in fact this whole component goes
25 right down to 'the proposed policy'. And it seems to

1 Chairman? This I think was better than trying to do it
2 impromptu here, to give the Ministry the time to look
3 at those and make a comparison and provide a response.

4 Q. Can we turn to page 8, Mr. Greenwood.

5 MR. GREENWOOD: A. I have it.

6 Q. Now, you may want to answer this the
7 same, but as I read that, that's a description of the
8 impacts of the proposed policy in terms of increased
9 roads, but it's also saying: Here are some of the
10 benefits that we will get for that increased
11 investment.

12 A. Yes, they seem to be describing the
13 benefits of more roads.

14 Q. And I would also ask, if you could,
15 when you get a moment - I won't do it now - but look at
16 518 and see if Racey, et al do not come to the same
17 conclusion for all intents and purposes as those
18 presented on page 8?

19 THE CHAIRMAN: Mr. Hanna, it's fine to
20 ask the witness what these things say, but tie it into
21 your question, what is going to lead from that?

22 MR. HANNA: I think the point simply is,
23 Mr. Chairman, that there was a conclusion made in 1976
24 about the advantages and benefits of a smaller
25 clearcut. We have produced a paper that was prepared

1 me that that paragraph, or those paragraphs are an
2 argument for the benefits of smaller clearcuts. Would
3 you agree with that?

4 A. To what point are you suggesting, I?

5 Q. To the beginning of 'the proposed
6 policy', there's a paragraph and a half.

7 A. I think they are stating their point
8 of view, correct.

9 Q. Would you say that their point of
10 view that is presented here on page 3 is significantly
11 different than the point of view put forward by Racey
12 in Exhibit 518?

13 A. With regard to wildlife and wildlife
14 values, I think it's the same argument.

15 Q. But Racey in 1988 talk also about
16 benefits to forestry also; is that not fair?

17 A. I'm not too sure of what you are
18 speaking directly to. Maybe you can...

19 Q. Okay. What I'll do -- I'm going to
20 deal with 518 later, we can deal with it. Perhaps what
21 we can say is that is something that I would like to
22 look at, and we will come back and deal with it later
23 okay.

24 A. Sure.

25 MR. HANNA: Is that all right, Mr.

1 in 1988, very late in 1988 arguing the exact same issue
2 and I want to see if there is something -- if there has
3 been a change or if that argument still stands today.

4 THE CHAIRMAN: Well, that maybe what
5 these authors have stated. That maybe their
6 conclusions, but how do you tie it into the Ministry?
7 Are you going to ask the Ministry do they agree with
8 those conclusions, do they not agree with those
9 conclusions. You have to focus other peoples' evidence
10 to what this panel has adduced.

11 MR. HANNA: Q. Mr. Greenwood, do you
12 agree with the conclusion on page 8?

13 MR. GREENWOOD: A. Not completely. I
14 guess the concern I'm having here, Mr. Hanna, is that
15 the other paper was speaking primarily to wildlife
16 values. There were some comments in there about
17 balanced age structures and normalization and what that
18 means to forestry, and I don't have an argument with
19 those comments either.

20 I don't recollect in the other paper
21 specific comments or conclusions with respect to the
22 effects of clearcuts on satisfactory renewal of a site.

23 Q. No, that wasn't my question.

24 A. And in terms of -- that was a major
25 focus of this paper as well as the wildlife values. I

1 think that the question of dispersing cut in terms of
2 its benefits to wildlife values is well understood.

3 This paper was pre the guidelines and we
4 now have guidelines and even with the guidelines it
5 still is a point that is discussed and interpreted. I
6 think that is valid.

7 In terms of the comments that the Racey
8 paper makes on balanced age classes and benefits to
9 forestry, I think that is valid. In terms of what the
10 Racey paper says with respect to roading and greater
11 flexibility of operations and greater ability to
12 harvest old timber with a bigger -- or a more extensive
13 road system, I think that's true. And as much as this
14 paper makes the same suggestions with respect to
15 wildlife and with respect to roads, I think that they
16 are in agreement.

17 But you asked me if I agree with the
18 total conclusions. There is also discussion about
19 reduced costs, there is also discussions about natural
20 regeneration, and I really haven't had time or red this
21 in enough detail or remember even the Racey paper
22 discussing those topics to determine if there is any
23 agreement between the two papers at all.

24 Q. Well, let me ask you this: Let's
25 forget about the Racey paper for right now and just

1 look at this conclusion on page 8, and are you
2 suggesting then that the conclusion:

3 "In addition, more areas will regenerate
4 naturally resulting in reduced costs and
5 forest growth will improve as a result of
6 better site protection."

7 Do you disagree with that statement?

8 A. It's an extremely general statement.
9 I don't know that I can agree with that statement in
10 its current general state.

11 The general comment that:

12 "...that forest growth will improve as a
13 result of better site protection."

14 I don't agree with that statement the way
15 it's written and the explanations with respect to
16 forest growth and renewal success is the evidence that
17 we have referred to that Mr. Armson talked directly to.

18 So I think if I know the body of this
19 report - and I didn't read it in detail, in fact I
20 didn't even skim this one last night - that the
21 connotation of forest growth here speaks to that
22 renewal question. And if I'm understanding the context
23 of this sentence correctly, then I don't agree with it.

24 Q. Mr. Greenwood, in your witness
25 statement you saw fit to include a report of the

1 President's Advisory Panel. I believe it's on page 294
2 of the witness statement:

3 A. That's correct.

4 Q. And the date of this report was
5 April, 1973.

6 A. 1973. Yes, April, 1973. That's
7 correct.

8 Q. And can you tell us just very briefly
9 the reason that you decided to include this in your
10 witness statement?

11 A. Certainly. This particular panel was
12 charged with the responsibility of examining timber,
13 timber management and the practices involved with it in
14 the United States in 1973 with particular focus on - in
15 the environment, effects on the environment.

16 Now, they were charged with a slightly
17 different responsibility in that they were charged with
18 the responsibility of examining ways in which timber
19 production could be increased because of a shortage of
20 wood, particularly I think for the large increase in
21 the housing market that was expected in the States.

22 But such an increase to examine the
23 potential for this increase in an environmentally sound
24 way and, therefore, the vast majority of the issues
25 that I was speaking to in my evidence were spoke on

1 directly to by experts in the United States who are
2 renown in their fields throughout North America and
3 those two papers I have included as well, one in Panel
4 10 and one in Panel 11.

5 Q. They were renown in 1973?

6 A. And they are still renown.

7 Q. Are you aware of any other public
8 inquiries comparable to this that have looked at the
9 environmental effects of forestry and the environment?

10 A. I'm aware of other inquiries. You
11 mean in the United States or anywhere?

12 Q. Well, let's keep to North American.

13 A. I'm aware that there have been other
14 investigations in the United States. I am not sure
15 that they were on the same basis of this, in that they
16 were reporting to the President.

17 Q. Have you heard of the Public
18 Inquiries on the environmental effects of Forestry
19 Operations in Alberta?

20 A. I have heard of them and that is as
21 far as I would go. I'm aware that such has taken
22 place.

23 Q. And have you any idea when they
24 occurred; could you indicate that to the Board?

25 A. No, I couldn't.

1 THE CHAIRMAN: All right.

2 MR. HANNA: Q. All evolving out of the
3 President's Advisory Panel. Can you tell us what
4 action was taken in the States?

5 A. To the best of my knowledge, I
6 don't -- I haven't -- I know that some of the
7 recommendations were not followed, and whether other
8 ones were acted upon, I can't say.

9 Another reason that I neglected to
10 mention. So given this, the parallel why I included a
11 1973 paper, I guess the key concept that I neglected to
12 mention is that these experts laid out a lot of the
13 science involved in the particular effects that I was
14 looking at and that science in terms of what you would
15 look at is valid today and, therefore, that is the
16 major focus of putting them in.

17 Q. Are you familiar with the Forest and
18 Rangelands Renewable Resources Planning Act of 1974
19 passed by the United States?

20 A. Again, I am aware of it, I don't know
21 any details about it.

22 Q. Are you familiar with the National
23 Forest Management Act of 1976 of the United States?

24 A. Again, aware of it, I don't know the
25 details of it.

1 Q. So there is no point in me pursuing
2 how the United States took the recommendations from
3 that President's Advisory Council and put it into
4 practice?

5 A. Not with me.

6 Q. Thank you.

7 MR. HANNA: Mr. Chairman, I think those
8 are my questions for Mr. Greenwood.

9 THE CHAIRMAN: Very well. On to Dr.
10 Euler?

11 MR. HANNA: Dr. Euler, I hope you are up
12 for this; I'm not sure I am.

13 DR. EULER: Just call me Dr. Guidelines.

14 THE CHAIRMAN: I thought you were Dr.
15 Mooseman or something.

16 DR. EULER: Well, I'm a lot of things to
17 a lot of people, it just depends on who's talking to me
18 on the particular day.

19 MR. HANNA: Mr. Chairman, to try and
20 assist the Board, I was up all night trying to deal
21 with other matters and trying to get prepared for this
22 morning and I haven't had yet put together a summary of
23 the matters that I am going to deal with Dr. Euler on.

24 What I would suggest that I do is I have
25 a series of topics and I will try to apprise you of the

1 topic and what I am attempting to do and work through
2 them in that way, if I can.

3 THE CHAIRMAN: Very well.

4 MR. HANNA: Q. Dr. Euler, in your paper
5 with Dr. Thompson at the back of the guidelines I
6 believe you speak of three levels at which you can look
7 at moose in terms of moose management; is that correct?

8 DR. EULER: A. Yes, the habitat levels.
9 Yes, that's correct.

10 Q. Now, the intermediate level, would
11 that be roughly larger or smaller than a timber
12 management unit in the boreal forest, just
13 approximately? I'm not -- it is not exact, I realize,
14 but are we talking about the same scale?

15 A. No, not at the medium level.

16 Q. What scale would we be talking to
17 with respect to, say, a timber management unit?

18 A. The first level.

19 Q. So the intermediate level would be
20 lower, it would be smaller than a timber management
21 unit?

22 A. Yes.

23 Q. By and large?

24 A. Yes.

25 Q. Is it your view that mineral licks,

1 calving sites, aquatic feeding areas and winter
2 concentration areas are all basic needs of moose and
3 should be considered at the intermediate level?

4 A. Well, they are certainly all needs of
5 moose. Now, some of them might need to be considered
6 at the first level, like that winter concentration area
7 might need to be considered at the first level.

8 So it would a mixture of first and second
9 level and even third level if you think of a mineral
10 lick, that's a fairly specific food requirement. So
11 they really spread across the three levels.

12 MR. HANNA: Mr. Chairman, I am sorry, I
13 didn't explain to you where I am going with this
14 question.

15 What basically I want to get a sense of
16 is the frequency with which the critical sites that Dr.
17 Euler identified with moose occur within the area of
18 the undertaking.

19 What frequency, how likely are we likely
20 to encounter them and what their distribution is.
21 Simply just to get some idea of -- and also to find out
22 how much knowledge we have of those and if there is a
23 possibility of us not knowing that one of those sites
24 might be there and what that possibility might be.

25 MR. MARTEL: What paper are you using?

1 MR. HANNA: I'm sorry, Mr. Martel?

2 MR. MARTEL: What paper are you using?

3 MR. HANNA: I'm looking at the Moose
4 Habitat Guidelines, Exhibit 510, the background paper
5 to that by Dr. Euler and Dr. Thompson.

6 MR. FREIDIN: I think you will find
7 reference to the three scales that he is referring to
8 on page 23.

9 DR. EULER: I think it is page 20; isn't
10 it? I think it is page 20, yes.

11 MR. HANNA: Yes, it is under the first
12 column at the bottom there under Moose Habitat Use, and
13 I believe they then go on and describe each of the
14 levels.

15 Q. Dr. Euler, what proportion of the
16 total mineral licks in the province are likely known to
17 the Ministry at this time?

18 DR. EULER: A. Well, I mean, I just
19 couldn't possibly answer that. I don't have any idea
20 what proportion of the total mineral licks are known.
21 I just don't know.

22 Q. Would you say the Ministry knows most
23 of them?

24 A. I do not know. You see, if we knew
25 all of them, then I could tell you. But I don't know

1 what I don't know.

2 THE CHAIRMAN: What if we don't know all
3 of them; what if we've missed one?

4 MR. HANNA: Yes, sir. I guess the
5 situation I am looking at is mineral licks have been
6 identified as sensitive areas and it would be areas of
7 concern. And if there is one there and it is a
8 critical need for moose and we don't protect it, that
9 has implications to the moose herd.

10 The question is: What is reasonable for
11 the proponent to undertake to avoid that type of
12 environmental risk.

13 MRS. KOVEN: Wouldn't it be better to ask
14 if he has any idea of the number of moose licks that
15 have been identified in the area of the undertaking,
16 whether we are talking about hundreds or thousands, or
17 we don't know?

18 DR. EULER: Oh, I think we came up with a
19 number 27 or something.

20 MRS. KOVEN: 27?

21 DR. EULER: Mm-hmm.

22 MR. HANNA: Q. So how many intermediate
23 levels that scale do we have in the province?

24 DR. EULER: A. How many what?

25 Q. Well, I'm talking about your

1 intermediate level. You talked about this intermediate
2 level of moose range, you said it is less than a timber
3 management -- what size is it?

4 Perhaps I can ask you that question.
5 What size is your intermediate level that you have
6 defined in terms of moose habitat, what's the
7 approximate size of it?

8 A. Well, we are thinking there mostly in
9 the terms of a home range of an animal which would be,
10 oh, 600 to a thousand hectares perhaps. That's a
11 ballpark figure.

12 Q. So if I did some rough calculations I
13 would end up with 60,000 of those in the province?

14 A. That might be -- well, if you want,
15 we can work these numbers out if you want to take the
16 time. It's up to you.

17 Q. Well, you've got 600,000 square
18 kilometres I think is the number that you used for your
19 moose target. I just took that and divided by 1,000
20 and came up with 60,000, but...

21 A. Yeah. Okay, sure. And it will vary
22 somewhat.

23 Q. So we know 27 of the mineral licks in
24 the province and we've got potentially 60,000...

25 A. Home ranges.

1 Q. Home ranges. What efforts are
2 required to identify these sites prior to the approval
3 of a cutting plan in a given area?

4 A. There are no specific efforts
5 required. We always -- our people are always on the
6 lookout for these and whenever they find them they make
7 notes of them and put them down on the record.

8 We are not interested so much in the
9 moose licks, we are interested in the moose and if the
10 moose are there, that's what we are concerned about.

11 Q. But if we aren't concerned about them
12 why are they areas of concern, Dr. Euler, I am a little
13 perplexed?

14 A. Well, because when you run into them
15 we would like you to take care of them. But it doesn't
16 mean that we are going to know where every moose lick
17 is and it doesn't mean that it is a good expenditure of
18 your funds to go out searching for a moose licks
19 because it may not be all that important to know where
20 they are.

21 Q. What proportion of the calving sites
22 in Ontario are known to MNR biologists?

23 A. Well, it is the same answer, I don't
24 know.

25 THE CHAIRMAN: Dr. Euler, if you are

1 dealing in an area of the province that you -- or the
2 forest within the area of the undertaking that you are
3 reasonably sure there are absolutely no moose, would
4 you be concerned about a mineral lick that you found
5 there--

6 DR. EULER: Well, yes--

7 THE CHAIRMAN: --if you found one?

8 DR. EULER: --I think I would be because
9 of the possibility that moose might come there in the
10 future.

11 Now, I don't know if my concern would
12 lead me to recommend a reserve at that point in time,
13 it might not and then again it might. It would depend
14 on my overall plan, what I was thinking about, what our
15 objective was and so on.

16 MR. HANNA: Mr. Chairman, I would like to
17 move on to some of the evidence-in-chief that Dr. Euler
18 presented, and I believe he spent much of his time on
19 Thursday, March 30th, describing the featured species
20 approach, the continuum and his interpretation of how
21 Dr. Baskerville's view and his view differed and I
22 would like to just pursue that, if I could for a
23 moment.

24 THE CHAIRMAN: Okay. As long as we are
25 not going to cover the same ground.

1 MR. HANNA: The same ground?

2 THE CHAIRMAN: As long as your questions
3 are on his testimony without having him repeat what
4 that testimony was.

5 MR. HANNA: Yes, sir.

6 Q. Dr. Euler, before we begin in this I
7 want to make sure we are all using the same terms
8 because I am sure, as you know, having been through
9 these hearings, we talk about harvesting of fish and
10 harvesting of trees and it can get us mixed up.

11 DR. EULER: A. Right.

12 Q. Now, I believe on page 14023 of the
13 transcripts, which I believe is Volume 84, you provided
14 your definition of adaptive management.

15 MR. FREIDIN: Could we just have a moment
16 until we can get a transcript for Dr. Euler, please.

17 MS. BLASTORAH: (handed)

18 DR. EULER: I have page 14023 here.

19 MR. HANNA: Q. And you are talking there
20 about your interpretation of what adaptive management
21 is; is that correct?

22 DR. EULER: A. Yes.

23 Q. Now, does adaptive management pertain
24 solely to wildlife management or does it pertain to
25 other types of planning and decision-making?

1 A. Well, I think it is a very broad term
2 applying to other types as well as wildlife.

3 Q. So it is fair to say that adaptive
4 management is wholly independent of the concept that
5 you have brought forward, this wildlife management
6 continuum?

7 A. Yes, I think so. I think you can
8 practice adaptive management at any point on that
9 continuum.

10 Q. No, we will get into that, but I just
11 want to make sure we are talking -- it is just terms I
12 am trying to get sorted out at this point.

13 A. Yes, I think I agree with you. As
14 far as I understand it I do.

15 Q. Now, on your continuum there is
16 featured species, indicator species and multi-species
17 management; is that correct?

18 A. That's right.

19 Q. Would you agree that these are
20 basically discreet choices?

21 A. Oh, no, no. It is a continuous
22 continuum and they glide into one another and sometimes
23 it's hard to tell whether you're indicator or featured.

24 Q. So it's a matter of degree. I can't
25 say for sure I have got a featured species management

1 as opposed to an indicator species management program?

2 A. No, no, I don't think that's true.

3 The question is: Were these discreet units on the
4 continuum and they are not, they grade into one
5 another. But sometimes you can tell, sometimes you
6 have a pure featured species, sometimes pure indicator
7 and you should be able to tell.

8 Q. Okay. Well, I think what you are
9 saying is that the boundaries are gray but the centre
10 points are clear?

11 A. Reasonably clear, that's right.

12 Q. Okay. Can we just talk about the
13 centre points, let's not worry about the boundaries
14 right now. So if we just --

15 A. Okay.

16 Q. Let's pretend they are discreet,
17 recognizing that there is this little gray area
18 inbetween when we don't know exactly whether they are
19 indicator species or featured species.

20 A. Right, okay.

21 Q. So we can -- really we have got an
22 endless, an infinite number of choices along that
23 spectrum?

24 A. That's right.

25 Q. And if we break it into three it just

1 makes it easier for us to talk about.

2 A. Right, okay.

3 Q. So we've got those three choices that
4 we are going to go to. There is one term that I did
5 not see in your evidence-in-chief and it was raised in
6 the discussions of Panel 8, and that is this concept of
7 habitat supply analysis that Dean Baskerville has
8 brought forward.

9 A. Yes.

10 Q. Can you tell the Board your
11 understanding of that term?

12 A. Habitat supply analysis?

13 Q. Yes.

14 A. Well, in a very perhaps
15 oversimplified way, it is just a disciplined way of
16 asking the question: How much habitat do we have now
17 and how much are we likely to have in the next 50 years
18 or 100 years, whatever time period you want to put. It
19 may be a little oversimplified.

20 Q. It's -- if you will, the term that I
21 use, I will see if you agree with it, it's an objective
22 approach as opposed to a constraint approach. This is
23 what I want, I say this the quantity of habitat that I
24 would like.

25 A. Yes, that's another way of saying it,

1 sure.

2 Q. So if we go back we've got, if you
3 will, three components to our management system that we
4 might draw on. We have got the adaptive management as
5 one component of it, we have got your species continuum
6 component, and we could use habitat supply analysis
7 with any combination of those; is that correct?

8 A. Well, I wouldn't organize it that way
9 myself, no.

10 Q. But that may not be the way you would
11 organize it, but I am asking you: Can I use habitat
12 supply analysis with featured species--

13 A. Yes.

14 Q. --indicator species or--

15 A. Yes.

16 Q. --multi-species?

17 A. Yes, yes. And you can use adaptive
18 management for any of them as well.

19 Q. And likewise the combinations of
20 habitat supply analysis and species and...

21 A. And adaptive management, mm-hmm.

22 Q. So they are all discreet elements and
23 we can put them together to develop a system?

24 A. Sure. Yes, in various combinations,
25 that's right.

1 MR. FREIDIN: And perhaps -- I don't know
2 if we are talking about this pretend hypothetical
3 situation. I just want to be clear when in fact he is
4 leaving this discreet situation, perhaps he should let
5 Dr. Euler know that he is not talking about this
6 hypothetical discreet situation, just so the record
7 won't get confused.

8 MR. HANNA: Q. Dr. Euler, when I move
9 away from that central point, those three central
10 points that we have decided on, I will let you know.

11 DR. EULER: A. Okay. Thank you.

12 Q. Now, I understand from your evidence
13 that you are in support of Dean Baskerville's concept
14 of adaptive management; is that correct?

15 A. Yes.

16 Q. Now, because you hadn't mentioned
17 habitat supply analysis and I have never had an
18 opportunity to talk to you about this or have you read
19 anything -- or read anything you have written on it, I
20 am interested to hear your views on it.

21 A. On...?

22 Q. Habitat supply analysis, the concept
23 of that technique.

24 A. Oh, it's an excellent concept, it's
25 excellent. It's a good idea and can be applied in a

1 number of situations. That's the positive side. It's
2 a very disciplined way of thinking. It's a very
3 thoughtful approach.

4 On the negative side, it's very expensive
5 and if you do it you need to make sure that the
6 investment in the tool is worth the benefits that you
7 are going to get.

8 Q. Thank you. Is it possible in your
9 view to combine adaptive management and the guideline
10 approach?

11 A. Yes, I believe it is possible.

12 Q. You're certain of that?

13 A. In my opinion, yes.

14 Q. Have you attempted to do this
15 yourself?

16 A. Yes.

17 Q. Can you tell me in what circumstances
18 you have done it with respect to the guidelines?

19 A. Well, I think our entire effort at
20 managing moose is a good example of trying to use
21 adaptive management and the guideline approach.

22 We have set a goal objective and that's
23 the essence of the adaptive approach; we set a goal
24 objective, work towards it; if we don't meet it, learn
25 why and then do another iteration.

1 Q. Okay. I'm going to go through it
2 step-by-step and so perhaps we can -- let's deal with
3 it one step at a time.

4 THE CHAIRMAN: Well, just hold on a
5 second. We will go through it step-by-step, but do it
6 by way of questions to the witness as opposed to
7 repeating the evidence that we have already had.

8 MR. HANNA: I'm sorry, Mr. Chairman, I
9 didn't -- I'm sorry, I didn't understand that comment.

10 THE CHAIRMAN: We are not sure what you
11 mean by going through it step-by-step. We would like
12 you to go through it step-by-step if you are going to
13 by asking Dr. Euler specific questions.

14 MR. HANNA: Absolutely, sir. That's my
15 intent, yes.

16 THE CHAIRMAN: Okay.

17 MR. HANNA: Q. Now, what I would like to
18 do is go through this and get your view on each one of
19 the steps as Dr. Baskerville has set it out and you can
20 explain to us how you see your guideline approach
21 fitting into that.

22 And if we can keep it simple, let's talk
23 about a featured species and maybe just moose.

24 DR. EULER: A. Sure.

25 Q. Now, the first step --

1 MR. HANNA: Mr. Chairman, I am just going
2 to read this, this is just right out of exhibit -- I
3 don't have the exhibit number, but it is Panel 8. It
4 is the Baskerville paper in Panel 8's witness
5 statement.

6 MR. FREIDIN: I think he is reading
7 Exhibit 378 from page 363; is that right?

8 MR. HANNA: Yes. And it is probably
9 easier for the witness. I will just read -- they are
10 very short statements. I am just going to read one
11 step at a time and ask the witness how --

12 DR. EULER: Is that Dr. Baskerville's
13 paper, Adaptive Management, Wood Availability and
14 Habitat Availability?

15 MR. HANNA: Yes. You've got it there?

16 DR. EULER: Yes.

17 MR. HANNA: Oh, good. Excellent.

18 Q. The first step as far as a measurable
19 goal goes, we have that for moose; correct?

20 DR. EULER: A. Yes, a measurable goal is
21 chosen for management of a natural system. In this
22 case we have that.

23 Q. But we apply the guidelines at a
24 timber management unit level; correct?

25 A. Yes.

1 Q. So what is the goal for moose at the
2 timber management unit level; how do we get that?

3 A. Well, that has to be disaggregated
4 from the provincial goal and it is done regularly. So
5 the person who is involved knows how many moose they
6 need to achieve on the wildlife management area.

7 So, he has to ascertain what part of the
8 timber management unit encompasses what part of the
9 wildlife management unit, make a decision about how
10 many moose then are needed to meet the goal and so on.

11 Q. Where is that documented in the
12 timber management planning process?

13 A. It is not in the timber management
14 planning process. It is not documented in the timber
15 management planning process.

16 Q. Where else is it documented?

17 A. It may be documented in a wildlife
18 management plan that is in the district and it may not
19 be documented at all.

20 Q. So we have the goal but it's in
21 someone's head somewhere?

22 A. No, it is not in someone's head, it
23 is clearly stated in the moose policy.

24 Q. No, no, I am talking -- perhaps I
25 should just step back here. I am trying to go through

1 the -- applying your Moose Habitat Guidelines to a
2 timber management plan. I am trying to see how we
3 would apply the adaptive management approach at that
4 level.

5 A. Yes, I know.

6 Q. Okay. And I just asked you where is
7 it documented, and you said in some cases, in fact --
8 would it regularly not be documented or would it be
9 regularly be documented?

10 A. Probably it is not -- the process is
11 not documented more often than it is documented.
12 The goal for the wildlife management unit is
13 documented, that's is clear.

14 Q. No, no, wait a second. But we are
15 not applying the timber management guidelines at the
16 wildlife management unit, we are applying them at the
17 timber management unit level.

18 A. That's right.

19 Q. That is the level I want to deal
20 with. I think the Board has heard about wildlife
21 management units, but we are talking about timber
22 management here.

23 MR. FREIDIN: Well, I think he explained
24 to you -- with respect, Mr. Chairman, I think the
25 witness did explain how the biologist would take the

1 wildlife management unit population target and consider
2 that in terms of applying the guidelines or making
3 decisions within timber management.

4 Now, I think he has answered the
5 question, the suggestion shouldn't be that he is
6 avoided the question or hasn't answered it.

7 MR. HANNA: I wasn't trying to suggest
8 that, Mr. Chairman.

9 Q. So we develop a measurable goal at
10 the timber management unit level, but it may not be
11 documented?

12 DR. EULER: A. Well, I would -- it may
13 not be documented in the timber management plan or --
14 yes, that's correct, it may not be documented at that
15 particular level. Yes, that's correct.

16 Q. But it is done?

17 A. Yes.

18 Q. Okay. Now, the next step is this
19 concept of linking the goals to what Dr. Baskerville
20 calls the cause/effect system dynamics - Dr.
21 Baskerville's words - and then forecasting, if you
22 will, what your outcome is likely to be; is that
23 correct, or to develop that sort of a tool?

24 A. Yes.

25 Q. Where is this tool that is used by

1 the Ministry?

2 A. Which tool are you talking about?

3 Q. I am using Dr. Baskerville's words, a
4 system forecasting tool.

5 A. Well, if I understand Dr.
6 Baskerville's words he says:

7 "The links among the goal, the
8 cause/effect system dynamics, and the
9 possible management actions are
10 explicitly stated usually in a model for
11 a system forecasting tool."

12 Is that what you mean?

13 Q. I read:

14 "Are explicitly stated for a system
15 forecasting tool."

16 And I am asking you: Where is that tool?

17 A. Well, we don't have that documented
18 in any one place that I can point to. I think our
19 people do that, but we don't have a model that I can
20 say: Here is the model or here is the tool. I think
21 they go through that process.

22 Q. So we do not have an explicitly
23 stated forecasting tool?

24 A. Not as Dr. Baskerville states it
25 here. No, we do not.

1 MR. HANNA: Mr. Chairman, rather than go
2 through the rest of it...

3 Q. Isn't that really the crux of what we
4 are talking about - rather than go through the rest of
5 the steps - isn't that what adaptive management boils
6 down to?

7 DR. EULER: A. Not in my opinion. I
8 think adaptive management is a management with a
9 built-in learning process and Dr. Baskerville's gives
10 again some guidance about how to go through this. I
11 think we do it, I think we do it in little different
12 way, not as explicitly as Dr. Baskerville would
13 advocate, but I do think we do it.

14 For example, we have stated our clear
15 goal at the provincial level 160,000 moose. We have
16 put together a model in the guidelines that say: Here
17 are the characteristics of habitat, here is what we
18 think that these habitat characteristics will achieve,
19 and at the provincial level it's pretty explicit.

20 Now, it isn't as explicit at the timber
21 management unit level, but I don't think that means
22 that we are not doing it.

23 Q. But are the guidelines not applied at
24 the timber management unit level?

25 A. Yes.

1 THE CHAIRMAN: I think you have reached
2 an impasse, Mr. Hanna.

3 MR. HANNA: Yes, I do too.

4 THE CHAIRMAN: In the sense that Dean
5 Baskerville calls for an explicit step, this witness
6 says that they don't follow it explicitly that way, but
7 he feels that they go through the same process
8 essentially.

9 MR. HANNA: I agree. I think that's the
10 impasse we are at and I am trying to move on, Mr.
11 Chairman, because of that, I believe we have reached
12 that impasse.

13 Q. I would like to refer to the Exhibit
14 381 which is the ESSA Report and I am turning to page
15 216.

16 DR. EULER: A. I have that.

17 Q. And I believe we have had -- we have
18 discussed this sentence before, but I just really want
19 to come back at one operative word in it. The sentence
20 I am looking at there is in the first full paragraph
21 and it starts:

22 "To say that the guidelines are designed
23 to protect the resource value (i.e.,
24 population from timber management
25 activities) implies that the relationship

1 between habitat and levels of the
2 resource value is known."

3 MR. FREIDIN: Well, Mr. Chairman, the
4 same question was asked of this witness yesterday,
5 exactly.

6 MR. HANNA: I haven't asked my question
7 yet, Mr. Chairman.

8 MR. FREIDIN: All right. I'm sorry, then
9 I think I will wait.

10 MR. HANNA: Q. Now, Dr. Euler, I am
11 looking at one word in that sentence and that is the
12 word implies. Is implicit the exact opposite of
13 explicit? In looking at implies, implies means it's
14 implicit.

15 DR. EULER: A. Yes, okay.

16 Q. And I go back - just because of the
17 one operative word, and I think this all turns on one
18 word and that is Dr. Baskerville is asking for
19 something explicit and it seems to me that ESSA has
20 come to the conclusion that what is done in the
21 Ministry is implicit.

22 A. Well, I wouldn't agree with that
23 conclusion.

24 Q. You wouldn't agree with the
25 conclusion in the ESSA Report?

1 A. No, your conclusion.

2 Q. Well, perhaps you can tell me what
3 your interpretation of the word implies is in that
4 context?

5 THE CHAIRMAN: Follows.

6 DR. EULER: Yeah, yeah. If you are going
7 to say that: Guidelines are designed to protect the
8 resource from timber management activities, it follows
9 that the relationship between habitat and levels of the
10 values are known.

11 MR. HANNA: Q. I am just trying to
12 charac -- I want to make sure we characterize, because
13 this really is the turning point and Dr. Baskerville is
14 asking for an explicit system and the Ministry uses an
15 implicit system. That's all I am really asking. Is
16 that correct, in terms of this connection?

17 DR. EULER: A. Well, what are you asking
18 me to affirm to be correct?

19 Q. I'm sorry, to...?

20 A. You said is that correct, and I am
21 just not sure what you want me to affirm or not affirm
22 as being correct.

23 Q. Okay. My reading of this sentence
24 suggests that the approach the Ministry uses --

25 THE CHAIRMAN: Excuse me, but rather than

1 go through the sentence and the terminology in this
2 sense and get into semantic arguments.

3 Do you agree, Dr. Euler, that Dean
4 Baskerville appears to be - and we don't know exactly
5 what he is doing and won't until he gets here - but
6 appears to be calling for an explicit relationship?

7 DR. EULER: Oh yes, no question.

8 THE CHAIRMAN: Based on his paper.

9 DR. EULER: That's right, based on his
10 paper.

11 THE CHAIRMAN: Okay. And does the
12 Ministry follow an explicit laid out approach?

13 DR. EULER: Well, I think it does at the
14 provincial level and my disagreement with Mr. Hanna,
15 you see, is that we don't do it at this timber
16 management level, but that doesn't mean we don't do it.

17 You see, he's focused his questions on
18 the timber management unit level and at that level we
19 are not very explicit, although we are explicit at the
20 bigger level.

21 See, I don't think Dr. Bakerville cares
22 frankly and it doesn't matter really whether he does or
23 not. I think what we are trying -- what we have done
24 is tried to adopt the spirit of adaptive management and
25 we may not follow each step that Dr. Baskerville

1 advocates in total agreement, but I think the spirit of
2 it is there.

3 And we might have eight steps or six
4 steps or five steps, and I think we do have it explicit
5 but we tend to use -- do our explicit stuff at the big
6 level.

7 THE CHAIRMAN: Okay. And does the
8 statement in the ESSA Report to you mean that it has to
9 be explicit?

10 DR. EULER: No, I don't think so. It
11 wouldn't mean that to me.

12 MR. HANNA: I didn't interpret that
13 either, Mr. Chairman.

14 THE CHAIRMAN: Well, I am not saying you
15 did. I am just asking that on my own.

16 MR. HANNA: Oh.

17 THE CHAIRMAN: Okay. I don't know if
18 that helps, but I don't know where go on whether
19 explicit is the opposite of implicit, et cetera.

20 MR. HANNA: I think we are moving on. I
21 think the point has been made and we will have to wait
22 until Dr. Baskerville comes to get his interpretation
23 of it.

24 Q. Dr. Euler, if we were -- perhaps I
25 will start again. Is the reason that you see, that

1 it's not profitable to develop an explicit system at
2 the timber management unit level?

3 MR. FREIDIN: What is the question.

4 DR. EULER: Was that a question?

5 MR. HANNA: I will try again.

6 THE CHAIRMAN: I am not sure he
7 understood I think what you asked which, as I
8 understood it, do you feel it is not profitable or
9 conversely is profitable to develop an explicit system
10 at the timber management unit level? You haven't done
11 it?

12 DR. EULER: Right.

13 THE CHAIRMAN: Is one of the reasons why
14 you haven't done it because you feel its too costly?

15 DR. EULER: Yeah, and the costs are -- I
16 don't think the costs are worth the benefits. I mean,
17 sure you can do it, and if you do it well it's an
18 elegant way of proceeding.

19 But if you can achieve the same results
20 for the people of Ontario at a lesser cost, then I
21 think we have to be very, very cautious about spending
22 money when we don't need to spend money.

23 MR. HANNA: Q. Perhaps I should touch on
24 this. I was going to go by it, but you had spent some
25 time in your evidence-in-chief talking about this

1 matter of cost and the difficulty in applying some of
2 these, I think you called it Baskerville's vision - and
3 I believe you were talking about the multi-species
4 approach and your suggestion was that Dr. Baskerville
5 is advocating the multi-species approach. Is that
6 correct?

7 DR. EULER: A. That would be my
8 understanding, yes, of his advocacy.

9 Q. Can you tell me the basis for that
10 view?

11 A. Well, it would be just from reading
12 the articles that he has written over the years and I
13 have attended some seminars where he has made
14 presentations a sort of amalgamation of all of those
15 things.

16 Q. Which article are you referring to
17 specifically?

18 A. I'm not referring to any specific
19 article. He participated in -- he has written a number
20 of articles over the years. He is very prolific.

21 THE CHAIRMAN: Once again, I think we are
22 getting into the area of what Dean Baskerville means.

23 MR. HANNA: I am asking this witness -- I
24 guess, what I am concerned about, Mr. Chairman, is if I
25 was -- maybe I will put a hypothetical to the witness.

1 q. If we were dealing with one species
2 rather than a multi-species approach to the habitat
3 supply analysis, do you still feel it would be
4 extremely costly; and that one species was moose?

5 DR. EULER: A. Well, see, that is a very
6 hard question for me to answer honestly. It's really
7 speculative. Based on what I know at this point in
8 time, I think it would be quite costly, yes.

9 Q. Are you aware of any other
10 jurisdictions who have undertaken that sort of exercise
11 for moose or other ungulates?

12 A. Yes, I am.

13 Q. Would the Ministry of Natural
14 Resources be able to draw on that experience, in your
15 view?

16 A. Oh yes, mm-hmm.

17 Q. Do you have any idea of the cost
18 those other jurisdictions have faced in developing this
19 sort of approach?

20 A. Well, I have a general idea and I
21 know that in general it's very costly.

22 Q. Perhaps for the Board's benefit,
23 just -- costly is rather a general word. What are we
24 talking, about millions of dollars, ten thousands of
25 dollars?

1 A. Well, this is very hard for me to
2 answer. My impression from reading, talking and
3 listening to these efforts is that it would be measured
4 in hundreds of thousands of dollars.

5 Q. And where do you see most of that
6 expense going, Dr. Euler?

7 A. Well, if you are going to do habitat
8 supply analysis it is almost imperative that you have
9 computer systems and geographic information systems to
10 do it well. Now, you can do some very crude models
11 without it, but it's -- they don't have the reliability
12 and if you are going to do it, you should do it well.

13 So that means you have got to have a full
14 panoply of computer equipment available and programming
15 available to deal with it, and you have to have
16 expertise available to deal with it, and you have to
17 have the knowledge available to deal with it, which may
18 well mean some research that we don't have, and it's
19 pretty easy for the cost to swell quite rapidly.

20 Q. Is the Ministry developing a
21 geographic information system that would be suitable
22 for this application?

23 A. Yes, we are. It's in experimental
24 stage right now and we are trying to learn how best it
25 works, where it works, what equipment is needed, the

1 pros and cons of it for a wide range of uses in the
2 Ministry.

3 Q. On page 14038 of the transcripts, Mr.
4 Freidin asked you how long it would take to put into
5 practice Dean Baskerville's vision and I believe you
6 responded:

7 "Well, it's certainly a very long time
8 and it is truly a vision, it is something
9 we will never achieve in our lifetime."

10 Do you recall that?

11 A. Yes.

12 Q. Does this comment pertain also if we
13 were using a featured species approach in Dr.
14 Baskerville's vision?

15 A. Well, Dr. Baskerville's vision is
16 something quite different than the featured species
17 approach.

18 Q. No, no.

19 A. I mean, you just can't say -- you
20 just can't say it that way.

21 Q. Remember when we went back to our
22 original terms where we wrote down, we had those three
23 things: We've got featured species, indicator species
24 and multi-species and we've got habitat supply analysis
25 as a separate distinct concept; correct?

1 A. Yes I do.

2 Q. Well, maybe I will ask you this: I
3 am talking about, if you used habitat supply analysis
4 with your featured species approach, would this
5 response be consistent? Would you make that same
6 response?

7 A. No, I wouldn't make that same
8 response. I think we could achieve it in a shorter
9 time using the featured species approach and habitat
10 supply analysis as a tool.

11 Q. Later in your evidence on page 14042
12 you were making reference to Exhibit 482. I believe
13 you said:

14 "And this is a fairly straightforward
15 formula that virtually any one can apply
16 in management planning."

17 A. Mm-hmm.

18 Q. "In the management planning process."

19 A. Yes.

20 Q. I haven't got the exact transcript.

21 A. Mm-hmm, that's right.

22 Q. And that formula is the two moose per
23 square kilometre type of thing we have behind us. I
24 just want to make sure I understand what you mean by
25 the formula.

1 A. Yes, mm-hmm.

2 Q. Is Exhibit 482 not in essence a very
3 simple habitat supply analysis?

4 A. Well, not really in my understanding
5 of habitat supply analysis, no.

6 Q. Does that diagram not indicate the
7 habitat required to sustain two moose per square
8 kilometre?

9 A. Yes, it does. It is a description of
10 good moose habitat under ideal circumstances.

11 Q. In very quantitative terms, very
12 explicit terms?

13 A. Yes, indeed. It's explicit, it's
14 quantitative, but I don't think that that's the same
15 thing as habitat supply analysis.

16 Q. Perhaps you can explain the
17 difference to me?

18 A. Well, habitat supply analysis is you
19 would ask the question: How much of this kind of
20 habitat do I have out there and how much am I likely to
21 have for a certain specified time period, and how much
22 habitat do I have that's less quality than this, and so
23 on.

24 THE CHAIRMAN: So the key, Dr. Euler, is
25 you have to have an inventory--

1 DR. EULER: Oh, yes.

2 THE CHAIRMAN: --of the habitat on the
3 ground.

4 DR. EULER: Yes.

5 THE CHAIRMAN: Exactly, both today and
6 then projecting in the future?

7 DR. EULER: Yeah. You would use
8 something like the OWOSFOP to help you with that
9 prediction.

10 THE CHAIRMAN: Much like the FRI stuff
11 that you collect on the forestry side?

12 DR. EULER: Yeah. In forestry, the
13 analagous thing is this OWOSFOP thing, only the words
14 they use -- it is called wood supply model.

15 Well, in wildlife it's the same thing,
16 it's just called habitat supply model and, of course,
17 the ideal world is when you can marry both those things
18 together and then, you know, that's really excellent.

19 MR. MARTEL: Has there been an attempt to
20 identify and compile the number of sites in any way,
21 shape or form?

22 In other words, do you know or have an
23 idea what is out there today, let's say, A caliber, B
24 caliber, C and so on?

25 DR. EULER: Well, yes, we are trying to

1 do that as best we can with the time and money that's
2 available to us. And various staff throughout the
3 province -- we had a good example that we gave Mr.
4 Hanna where one of our biologists up in Wildlife
5 Management Unit 3 did a really super example of exactly
6 that.

7 He put all his stuff on maps very nicely
8 and he said: Here's where the moose are, here's where
9 the caribou are, here's this, here's that. That would
10 be step 1 in habitat supply analysis and a really first
11 rate job.

12 And, furthermore, we are experimenting,
13 we have got people experimenting with these ideas all
14 the time. Right now in some of our experimental areas
15 they are testing these concepts, they are going out and
16 doing things in the field.

17 It's just we feel that we have to be a
18 little cautious before we rush headlong into it and
19 make sure that the benefits and the costs are there. I
20 think we are fairly aware of all this and we are
21 cautiously examining it, but we are not there at the
22 moment. At the moment we are still using featured
23 species management.

24 MR. MARTEL: But you must have some
25 idea -- you know how many moose are out there roughly?

1 DR. EULER: Right.

2 MR. MARTEL: Now, how to you translate
3 that, what's out there and the type of habitat that
4 they -- there has got to be some sort of bringing the
5 two together; is there not?

6 DR. EULER: Mm-hmm.

7 MR. MARTEL: That would give you a basis?

8 DR. EULER: A very rough, yes, indeed.

9 MR. MARTEL: But that's rough?

10 DR. EULER: That's very rough. Like, we
11 have very few places in the province where we have two
12 moose per square kilometre. So one could conclude from
13 that that we have very few places in the province where
14 the habitat is this ideal and this good.

15 Now, we have quite a few areas where the
16 population is down to around one moose per square
17 kilometre roughly -- or I mean, sorry, about half a
18 moose per square kilometre. And so, you know, we would
19 say then that it is maybe 20, 30, 40 per cent of this
20 ideal. Very rough.

21 MR. MARTEL: Can you alter the sufficient
22 forest to get the type of ideal that's there?

23 DR. EULER: No, we can never do that, no.
24 And the only reason that that's useful is it does keep
25 in everybody's mind a picture of what to strive toward,

1 sort of like a pilgrim on his way to the Emerald City.
2 Now, it's useful to have that vision there even though
3 you may never actually get there.

4 MR. HANNA: Q. And the major barrier to
5 getting there at the present time is one of information
6 management, this problem of the geographic information
7 system?

8 DR. EULER: A. That's a big part of it.
9 It's also getting the knowledge in forms that can be
10 handled routinely by an individual biologist and
11 economically by an individual biologist. That's
12 another part of it.

13 It isn't just GIS, it's also this getting
14 the information in streamlined forms that can be used
15 easily and economically by a person who is on the
16 ground and who also is pressed by a number of other
17 duties.

18 Q. If we were to take the example in
19 Exhibit 482 -- and I believe that was generated by a
20 group of experts at a moose conference; is that
21 correct?

22 A. Yes.

23 Q. And we were to take that same group
24 of experts and say: Modify some of the percentages,
25 would those experts be able to give you some idea of

1 the types of changes that are likely to occur in the
2 moose population -- moose density?

3 A. Yes, I think they could give you a
4 very informed opinion on that, yes.

5 Q. A reasonable estimate?

6 A. Yes.

7 Q. Dr. Euler, I don't know whether the
8 Board has heard of a thing called ONEPOP?

9 A. Somehow I --

10 MR. HANNA: It is like the six guns, Mr.
11 Chairman.

12 DR. EULER: Somehow I doubt it.

13 THE CHAIRMAN: I sure wouldn't count on
14 it.

15 MR. HANNA: Q. Perhaps you could tell
16 the Board what ONEPOP is, Dr. Euler?

17 DR. EULER: A. So you want to use all
18 the rest of your time up in this question; do you, Mr.
19 Hanna?

20 Q. Oh, oh. Well then, maybe I will...

21 A. You may want to reconsider that
22 question. We can talk for quite a while.

23 Q. Perhaps a brief description of it,
24 please?

25 THE CHAIRMAN: How do you spell it, first

1 of all?

2 DR. EULER: O-N-E-P-O-P, just one word.

3 MR. MARTEL: It sounds like your six gun
4 but you've only got one shot.

5 DR. EULER: That's right. You've got to
6 be really good to hit the target with just one shot.

7 Well, I am just trying to go over in my
8 mind how best to do this. ONEPOP is a computer model
9 that uses a computer as a tool to help a person analyse
10 the population dynamics of a species of wildlife.

11 It takes all the information known about
12 the wild animal under consideration such as birth rate,
13 death rate, expected life expectancy, whatever other
14 population parameters you have, amalgamates it into
15 kind of a giant picture of how that population changes
16 over time under various types of influences.

17 This particular model was developed in
18 Colorado by a group of people working for the United
19 States Fish and Wildlife Service. It had extensive
20 development and has been accepted and used quite widely
21 throughout North America as an aid in analysing how
22 populations of wild animals, particularly vertebrates,
23 change through time under various scenarios of hunting,
24 weather, habitat conditions and so on.

25 Is that sufficient?

1 MR. HANNA: Well, I think the Board has
2 got a flavour for what it is. I don't think the
3 Board -- obviously it is not going to sit down and use
4 it, but I think they have got a flavour for what it is.

5 THE CHAIRMAN: I am going to use it
6 tonight.

7 MR. HANNA: Q. I think the important
8 word that you used there, Dr. Euler, is that ONEPOP is
9 an aid to decision-making; is that correct?

10 DR. EULER: A. Yes, that's the most
11 important word, it's is an aid. It does not replace a
12 person or thinking ability, it is simply an aid.

13 Q. Is this model used by biologists in
14 the field?

15 A. Yes, we have used it in Ontario quite
16 extensively.

17 Q. Would you agree with me that there is
18 quite a bit of uncertainty in terms of population
19 dynamics and the relationships in that model?

20 A. Well, okay. Now, we are going to get
21 technical, no. You see, the relationships within the
22 model are not uncertain; many of the paramaters that
23 you put into the model are uncertain.

24 Q. I think that's an important point to
25 make. Perhaps, I'm not sure the Board understands

1 precisely because that is a very technical thing you
2 just said. I think it is important for the Board to
3 clearly understand what you have just said.

4 Can you just perhaps elaborate on the
5 difference?

6 A. Okay. What the model does, it will
7 say: Assume for the moment you have one female deer
8 and one male deer and they do what comes naturally and
9 they produce a baby deer, okay.

10 We know on average that a mama deer
11 produces say two and a half baby deer every year and we
12 know that on average that happens. So that particular
13 part of what goes on in the model is fairly certain. I
14 mean, we know deer reproduce.

15 We don't always know with a great deal of
16 certainty what that average number is because it will
17 change across the Province of Ontario.

18 So, for example, in southern Ontario the
19 average number of fawns produced by a female deer may
20 well be around 3. However, around North Bay it may be
21 2.5. So we don't always know with certainty those
22 parameters, although we know a great deal about the
23 relationship that the model expresses.

24 So as we work with it someone might say:
25 Well, on average how many moose in Kenora are born each

1 year to an average female moose, and we say: Well, on
2 average it is one, but occasionally they produce two.
3 Someone may say: Well, how occasionally. Well, we are
4 not sure but we think maybe two out of ten times. So
5 that kind of data are somewhat uncertain. I don't know
6 if that helped.

7 Q. I think it did. I think the point is
8 that we are -- motherhood again, we don't know
9 everything about natural systems but we make do with
10 the best knowledge we have and that's what's captured
11 in the model that you have developed?

12 A. Yes.

13 MR. HANNA: Mr. Chairman, I am sort of
14 trying to go through this as quickly as I can and I am
15 sort of mixing and matching. It might be more
16 efficient if I just take a break and...

17 THE CHAIRMAN: All right. Let's have 15
18 minutes.

19 MR. HANNA: Thank you, Mr. Chairman.

20 ---Recess taken at 3:25 p.m.

21 ---On resuming at 4:05 p.m.

22 THE CHAIRMAN: Thank you, ladies and
23 gentlemen. Please be seated.

24 MR. HANNA: Mr. Chairman, it looks like I
25 can finish by six if I keep trucking along here as

1 quickly as I can.

2 THE CHAIRMAN: Okay. Have we left ONEPOP
3 or are we still with that?

4 MR. HANNA: Still a couple of pops left,
5 if we could, Mr. Chairman.

6 THE CHAIRMAN: Okay. Excuse us a second,
7 we are just having a little exhibit problem here. He
8 has accused me of stealing his exhibit for Panel 8 and
9 I told him that it's got my name on it, it is not his.

10 MR. FREIDIN: You just want to borrow his
11 underlinings.

12 THE CHAIRMAN: I want to peak at his
13 notes.

14 MR. HANNA: Q. Dr. Euler, a few more
15 points on ONEPOP before we move on. We have
16 established that ONEPOP is used by the Ministry, it is
17 an aid to decision-making and whatever that the
18 district biologists use.

19 Do you feel that it increases the
20 consistency and reliability of their management
21 decisions?

22 MR. HANNA: Perhaps, Mr. Chairman I will
23 just...

24 Q. Can you just explain to the Board. I
25 don't know that we have explained what...

1 MR. HANNA: Does the Board understand
2 what types of decisions this model is used for?

3 THE CHAIRMAN: Well, based on your
4 explanation just a little bit earlier. Does it go
5 beyond that?

6 MR. HANNA: Q. Dr. Euler, is the ONEPOP
7 model used to set allocations for moose and deer
8 harvest?

9 DR. EULER: A. Yes.

10 Q. Now, I asked the question: Do you
11 feel it increases the consistency and reliability of
12 their decisions in this respect?

13 A. Yes.

14 Q. Would you agree that it permits the
15 public to follow the logic of the decisions more
16 easily?

17 A. No.

18 Q. You mean, if I was to leave it
19 totally to the discretion of the biologist it would be
20 more understandable to the public?

21 A. No, I'm not sure the reverse is true.
22 I just don't think that particular model is a useful
23 tool to help the public understand what we are doing.
24 I mean, it is a black box as far as the public are
25 concerned.

1 Q. Perhaps we should be very careful
2 about who the public is. Would you include the Ontario
3 Federation of Anglers & Hunters as the public?

4 A. Yes.

5 Q. And you would say that the Ontario
6 Federation of Anglers & Hunters with their type of
7 staff would not be able to understand what goes on in
8 the ONEPOP model?

9 A. Oh, well now, I didn't quite
10 understand that. The Ontario Federation of Anglers &
11 Hunters' staff could certainly understand and to them
12 it would be an effective communication device.

13 THE CHAIRMAN: I think you are making a
14 distinction between the average lay public and the
15 public with some specific expertise, whether it is
16 biological or scientific or something else; are you
17 not?

18 MR. HANNA: Well, I think the Ontario
19 Federation of Anglers & Hunters is a reasonable
20 representation of a public interest group and that want
21 might to have some knowledge about those how decisions
22 are made.

23 And I'm simply asking Dr. Euler, would
24 the presence of that model help a group like that
25 understand how the Ministry came to its moose

1 allocations.

2 DR. EULER: See, I think it's -- when I
3 answered that my thought was the average person, the
4 average person who belonged to that group. No, I don't
5 think it will help them.

6 Staff like Dr. Quinney, it would be
7 certainly helpful because he has the training and
8 knowledge and experience, no problem.

9 THE CHAIRMAN: But would you -- in your
10 opinion, would a Dr. Quinney understand how you arrive
11 at those decisions without the use of one?

12 DR. EULER: Oh, yes, I think he would,
13 sure. Someone with that kind of training and knowledge
14 and experience, sure.

15 MR. HANNA: We may have to call Dr.
16 Quinney now, Mr. Chairman, but that's fine.

17 THE CHAIRMAN: Well, I didn't say Dr.
18 Quinney, I said a Dr. Quinney. There is a difference.

19 MR. HANNA: Q. Does the ONEPOP model
20 have any direct connection with habitat
21 characteristics?

22 DR. EULER: A. No, not direct.

23 Q. Are there comparable tools to help
24 assess the impact of the habitat management six gun?

25 A. Yes, I think there are, although they

1 are not quite as well developed and we don't -- we are
2 working on -- one of our staff on the Ministry are
3 working on one now. I don't believe it's completed
4 yet, it's still in the developmental process.

5 Q. I have no knowledge of what you're
6 referring to. Could you please explain to me
7 specifically what this is and what state it is in?

8 A. Well, one of our research biologists
9 has a project to develop a model that involves the
10 relationship between habitat and population and
11 interaction between population dynamics and habitat.

12 But it's a project, it's midway through,
13 he's taken another model that was developed by Dr.
14 Aaron Morin at Cornell and he is adopting it to Ontario
15 situations, but he is midway in that process.

16 Q. Who is this researcher, please?

17 A. Dennis Voigt.

18 THE CHAIRMAN: White, did you say?

19 DR. EULER: Voigt, V-o-i-g-t.

20 MR. HANNA: Q. And is that model being
21 developed for deer?

22 DR. EULER: A. Yes.

23 Q. You would agree with me that
24 management of the forests in terms of timber requires a
25 great number of variables and a long time horizon to be

1 considered?

2 A. Yes.

3 Q. Would you say that this is not the
4 case with wildlife habitat?

5 A. No.

6 Q. Are you not faced with the same
7 problems of spacial and temporal scales with wildlife
8 habitat as you are with forest management?

9 A. Oh yes, mm-hmm.

10 Q. Do you see any use in the tools
11 developed by the foresters to project forest growth
12 having use in wildlife habitat management?

13 A. Mm-hmm, yes. I think that OWOSFOP
14 model is a very useful one, I just have to learn how to
15 pronounce it, but it's very useful, it's extremely
16 useful.

17 MR. MARTEL: You have to talk to Dr.
18 Osborn.

19 DR. EULER: Pardon?

20 MR. MARTEL: You have to talke to Dr.
21 Osborn.

22 DR. EULER: Perhaps he can give me some
23 eloqution lesson.

24 MR. HANNA: Q. You said that quite well.

25 MR. FREIDIN: We heard you now, you

1 should be able to make yourself heard.

2 MR. HANNA: Q. One last question before
3 I move off this subject, Dr. Euler. I understand the
4 complexity of trying to deal with the spacial elements
5 and habitat and whatever and the need for GIS system --
6 geographic information systems, et cetera, et cetera,
7 and the things that you have provided to us.

8 What I don't understand is how the
9 Ministry does it now in the absence of those tools?

10 A. And you would like me to explain
11 that, I presume?

12 Q. Please. Well, if it's going to be a
13 long -- if it's going to be reiterating your evidence,
14 no. If you can give me a concise answer and say: This
15 is how we deal with the spacial and temporal horizons
16 in a brief way; yes, please.

17 A. We don't have any formal procedure
18 that we insist that a person go through to deal with
19 time and space horizons. That is something that we
20 leave to the individual and we judge them by their
21 results.

22 Q. We could do the same with forestry
23 then?

24 A. Well, perhaps we could. I don't
25 know. I just -- I really know wildlife and I feel

1 confident that that works for wildlife.

2 Q. Dr. Euler, can we refer to page 14029
3 through to 14030 of the transcripts and I believe you
4 were discussing here with Mr. Freidin Exhibit 482 and
5 the evolution of Exhibit 482, and in 14031 I believe
6 you indicate, and your words are:

7 "Back in 1980, when we developed the
8 moose management policy, we just did not
9 have the knowledge or expertise to be
10 this sophisticated."

11 Do you see those words?

12 A. Yes, I do.

13 Q. Now, we have made reference -- or I
14 believe you've made reference to a Dr. Peak; is that
15 correct?

16 A. Yes, yes. I don't see it right here,
17 but...

18 Q. No, no, no. No, it's not in the
19 transcripts, it was much later, it's actually in our
20 cross-examination that I believe you made reference to
21 Dr. Peak. But you have made reference to Dr. Peak?

22 A. Yes, mm-hmm.

23 Q. Do you know when Dr. Peak completed
24 his thesis for his doctoral degree?

25 A. '75 or '76.

1 Q. I believe it's '71.

2 A. Well, it could be '71. It's not the
3 sort of thing I keep in my head.

4 Q. Well, I appreciate that. It wouldn't
5 surprise you if I told you it was 1971.

6 A. No, it wouldn't surprise me.

7 Q. And you are familiar with the
8 monograph that was published by the Wildlife Society
9 that dealt with Dr. Peak's work?

10 A. Yes.

11 MR. HANNA: Mr. Chairman, I would like to
12 enter that as an exhibit.

13 THE CHAIRMAN: Exhibit 524 I believe.

14 ---EXHIBIT NO. 524: Monograph published by Wildlife
15 Society authored by Dr. Peak.

16 MR. HANNA: (handed)

17 THE CHAIRMAN: Thank you.

18 MR. HANNA: Q. Dr. Euler, have you read
19 Dr. Peak's thesis?

20 DR. EULER: A. Yes, I have.

21 Q. Would you say that this monograph
22 basic is essentially a summary of his thesis?

23 A. Well, I have never read his thesis so
24 it probably is, but I don't know that from first-hand
25 knowledge.

1 Q. Okay. His work was undertaken in the
2 northeastern Minnesota area, in fact I think you said
3 it was close to Thunder Bay; is that correct?

4 A. Yes, just below the border, the
5 U.S./Canada border.

6 Q. I would like to refer you to page 59
7 of this exhibit.

8 A. Mm-hmm.

9 Q. And I would like to read you there
10 from the second -- first full paragraph, the sentence
11 starting with:

12 "Based on this field study..."

13 THE CHAIRMAN: Whereabouts is that on 59?

14 MR. HANNA: It's the first column --
15 first full paragraph, it's about the third sentence
16 down.

17 THE CHAIRMAN: Okay.

18 MR. HANNA: Q. "Based on this field
19 study, it appears that areas of highest
20 potential for moose habitat management
21 are township sized blocks within the
22 current high density range with the
23 following compositions: Cut-over less
24 than 20 years old, 40 to 50 per cent;
25 spruce/fir, 5 to 15 per cent; aspen/birch

1 over 20 years, 55 to 35 per cent."

2 Now, those numbers look very, very
3 similar to Exhibit 482; do they not?

4 DR. EULER: A. Yes, they are.

5 THE CHAIRMAN: Mr. Hanna, do you have the
6 year of this exhibit by any chance?

7 MR. HANNA: Yes, sir. Isn't it given at
8 the front of it. I'm sorry, sir. It's 1976.

9 THE CHAIRMAN: All right.

10 MR. HANNA: Q. Dr. Euler, can you turn
11 to page 60 and I believe in the first column there
12 about a third of the way down he talks about the
13 densities of mooses -- of mooses - moose and I believe
14 he provides a density there for the boundary waters
15 canoe area of 1.93 moose per square kilometre; is that
16 correct?

17 DR. EULER: A. Yes, I think it's --
18 Well, I'm sorry, would you say that again. It's 1
19 point...

20 Q. He's got 1.93 per square kilometre on
21 the existing large recently logged area within the
22 boundary waters canoe area.

23 A. That's right. And he has .77 as an
24 average overall.

25 Q. And the boundary waters canoe area is

1 an area that is restricted to hunting; is that correct?

2 A. Yes, I believe so.

3 Q. 1.93 square kilometres is pretty
4 close to 2 kilometres; is it not?

5 A. Yes, it is.

6 Q. Or 2 per square kilometre. I believe
7 the study that he's referring to in this sentence I
8 read before, this field study is referring to his work
9 for his thesis; is that correct? Is that your
10 understanding?

11 A. Yes. I believe that is true, yes.

12 Q. So this work --

13 A. I haven't read his actual thesis, so
14 I can't be certain, but it's very likely.

15 Q. I believe I included the references
16 there and you can actually check. I believe he has
17 referenced it a number of places, but I believe you
18 will see -- the references aren't, oh.

19 MR. HANNA: I'm sorry, in mine -- I am
20 sorry, Mr. Chairman, unfortunately they were not
21 included.

22 THE CHAIRMAN: Is it material?

23 MR. HANNA: I think the simple point is
24 that in -- the study was done -- his work was done
25 prior to 1971. I think that's the only material point

1 that I want to make.

2 Q. That would not surprise you, that
3 this work was done prior to 1971, Dr. Euler?

4 DR. EULER: A. No.

5 Q. Can you tell us what major
6 breakthrough in understanding occurred between 1971 and
7 now that has provided you the ability to produce
8 Exhibit 482?

9 A. Well, I think the reason that I put
10 482 there is because 482 is a result of a meeting held
11 just last year in which experts in the moose management
12 field got together and came up with this as an agreed
13 on point of view.

14 Over a number of people, a number of
15 parts of the country, they came to this consensus and
16 it did turn out to be very much as Jim Peak has
17 predicted in might be several years earlier. And so on
18 the basis of that, I feel that we can have more
19 confidence in this number because it stood the test of
20 time, it has been reviewed by experts in the field and
21 I think at this point we can feel fairly comfortable
22 with it.

23 We also have to remember that this is a
24 very special case, it doesn't occur everywhere, and
25 when we are looking at all of northern Ontario, we have

1 much of northern Ontario that doesn't have habitat such
2 as is in the boundary waters canoe area. That is why
3 we looked, for example, at the Chapleau Crown Game
4 Preserve and we also looked at the the Quetico National
5 Park which is just north of the boundary waters,
6 because we wanted to amalgamate Canadian data into our
7 process as well.

8 Q. Perhaps I am putting too much
9 emphasis on words. But your words were:

10 "We just did not have the knowledge or
11 expertise to be this sophisticated when
12 the moose policy was developed."

13 The moose policy was developed in 1980,
14 this was done in 1971 or earlier, it took more than ten
15 years for us to develop that confidence and
16 sophistication?

17 A. Well, this is one piece of
18 information that we used and you can never base a
19 policy on simply one piece of information that a person
20 has done at one point in time. It's necessary to be
21 thoughtful and examine all the evidence that you have,
22 and we did that and we came to the conclusions that we
23 came to.

24 I mean, you just can't take one study and
25 base your whole management decision for a number of

1 years on one study. It's a very valuable study and
2 time has proved its value and we have a great deal of
3 confidence in it now, more confidence than we did at
4 that point and I think that is what I was getting at in
5 this sophistication business, because scientific work
6 that stands the test of the time is more valuable than
7 scientific work that has not.

8 Q. Dr. Euler, are you familiar with the
9 writings of Jack Ward Thomas?

10 A. Yes, I am, at least some of them.

11 Q. I believe he published an article in
12 the Forestry Chronicle 1985, the same journal -- the
13 same issue in which you also published an article; is
14 that correct?

15 It was entitled: Towards the Managed
16 Forests: Going Places That We Have Never Been Before.

17 A. Yes.

18 Q. You are familiar with that?

19 A. Basically I am.

20 MR. HANNA: Mr. Chairman, I would like to
21 enter that as an exhibit.

22 THE CHAIRMAN: Exhibit 525.

23 ---EXHIBIT NO. 525: Article published in the Forestry
24 Chronicle 1985, entitled: Towards
25 the Managed Forests: Going Places
That We Have Never Been Before by
Jack Ward Thomas.

1

2

MR. HANNA: (handed)

3

THE CHAIRMAN: Thank you.

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MR. HANNA: Mr. Chairman, you might enjoy this as bedtime reading. Dr. Thomas is known to be somewhat - how should I say - a light-hearted writer and I think you might find his style interesting, if nothing else, given the nature of this hearing, but I am just going to read to you one -- well, I'm referring...

11

12

THE CHAIRMAN: I won't tell you what I read before I go to bed.

13

14

MR. TUER: But it's not about moose though.

15

16

17

THE CHAIRMAN: I can assure you it's not going to be Mr. Thomas, at least not tonight; maybe tomorrow night.

18

19

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21

MR. HANNA: We all don't have weird interests. I was speaking for myself, sir, not to you. Biologists read those sorts of things when they go to bed.

22

23

24

25

Q. I believe on page 169 Dr. Thomas goes through somewhat of a light-hearted analysis with a certain cut to it in terms of the different types of interactions between foresters and biologists. Is that

1 not right, Dr. Euler?

2 DR. EULER: A. Yes, he does. I heard
3 him give this address. It was a banquet address.

4 Q. So you are familiar with the basic
5 thrust of his arguments?

6 A. Yes, I am.

7 Q. Perhaps you could read me NO. 4 under
8 The Games that Biologists Play with Foresters, that is
9 on page 169, second column?

10 THE CHAIRMAN: Should this be turned into
11 an in-camera proceeding for this or is it possible to
12 put it on the record?

13 MR. HANNA: I'm sorry, Mr. Chairman, I
14 really didn't follow?

15 THE CHAIRMAN: Okay.

16 MR. HANNA: Q. Could you read that into
17 the record, please, Dr. Euler.

18 A. "Whoops: Astute Whoops players out
19 manoeuvre constrainers..."

20 Q. Whoa, whoa, those are foresters. We
21 don't want to -- we don't malign foresters. I would
22 prefer to talk about biologists this time on the second
23 column under 4.

24 A. Oh, I am sorry. I got the wrong
25 game. Okay.

1 "We Don't Know Enough: In We Don't Know
2 Enough the biologist refuses to be
3 contaminated by participating in anything
4 as grubby as forest management while
5 pretending to take part. Pretense takes
6 the form of responding to all queries for
7 knowledge by emphasize how little is
8 really known about wildlife forestry,
9 the relationships, while ignoring the
10 considerable amount that is known. Some
11 students of game playing believe this
12 game is nothing more than a variation of
13 the old generalized Stand By/Stop The
14 World I Want To Get Off."

15 Q. Do you feel there is some truth in
16 that statement?

17 A. Yes, there is some truth in that
18 statement.

19 MR. HANNA: Mr. Chairman, I would like to
20 move on now to the other featured species, actually the
21 non-game species that we talked about earlier
22 particularly with respect to the matter of how they
23 might be dealt with more efficiently in the featured
24 species program that the Ministry has put forward.

25 THE CHAIRMAN: Very well.

1 MR. HANNA: Q. On page 14048 of the
2 transcripts, Mr. Martel asked you about the possibility
3 of adding several featured species to cover off the 30
4 per cent of the vertebrates not dealt with through the
5 moose and deer guidelines. I'm sorry, it's page 14048.

6 And I believe you identified three
7 species, yes - excuse me - three species, the great
8 gray owl--

9 A. Yes.

10 Q. --the red-shouldered hawk and the
11 pileated woodpecker; is that correct?

12 A. Yes. Well, let's see. Yes, that's
13 right, mm-hmm.

14 Q. Would you say that the habitat
15 requirements of the great gray owl are reasonably
16 well-known?

17 A. Reasonably, mm-hmm. Yes.

18 Q. Would you say that we are in the
19 position at the present time to develop a habitat
20 supply analysis for that particular species?

21 A. Well, probably, although I'm not
22 very -- I'm not certain, but we probably are.

23 Q. Are you familiar with the work of a
24 biologist by the name of Dr. Robert Nero?

25 A. Yes.

1 Q. Could you tell the Board what Dr.
2 Nero has spent most of his life doing?

3 A. Studying great gray owls and black
4 birds. He also studies red-winged black birds.

5 MR. HANNA: I won't tell you what he
6 reads before he goes to bed, Mr. Chairman.

7 Mr. Chairman, I would like to show the
8 witness a recent -- Proceedings on Northern Forest
9 Owls.

10 THE CHAIRMAN: Show the witness but, I
11 mean, has he had an opportunity to.

12 DR. EULER: I'm familiar with that
13 proceedings.

14 THE CHAIRMAN: Are you?

15 DR. EULER: I know what he's talking
16 about, yes.

17 THE CHAIRMAN: Okay.

18 DR. EULER: I'm not sure I can remember
19 every word that has been writting in it, but I am
20 familiar with it.

21 THE CHAIRMAN: Exhibit 526.

22 ---EXHIBIT NO. 526: Publication entitled Symposium
23 Proceedings: Biology and
24 Conservation of Northern Forest
Owls, 1987.

25 MR. HANNA: (handed)

1 THE CHAIRMAN: Thank you.

2 MR. HANNA: Q. Would you say this
3 provides a fairly comprehensive summary of northern
4 forest owl habitat requirements and ecology?

5 DR. EULER: A. Yes.

6 MR. FREIDIN: What is that exhibit going
7 to be called?

8 THE CHAIRMAN: Symposium Proceedings:
9 Biology and Conservation of Northern Forest Owls, 1987.

10 MR. FREIDIN: Thank you.

11 MR. HANNA: Q. And I believe under strix
12 owls, s-t-r-i-x, on page (ii), there is quite a
13 discussion there of different matters with respect to
14 great gray owls?

15 DR. EULER: A. Yes, that's correct.

16 Q. So this represents, if you will, a
17 fairly comprehensive summary of the habitat
18 requirements of that particular species?

19 A. Yes, it is a good summary.

20 Q. Is it your view that the habitat
21 requirements of the red-shouldered hawk are fairly well
22 known?

23 A. Yes.

24 Q. Do you feel that we are in a position
25 at this point in time to develop a habitat supply

1 analysis for the red-shouldered hawk?

2 A. We probably are, certainly.

3 Q. Now, what about the pileated
4 woodpecker?

5 A. I think the same applies.

6 Q. How long do you think it would take
7 to develop those?

8 A. Habitat supply analysis?

9 Q. For those species?

10 A. How much money can you give me? It
11 is strictly dependent on money. If we have a lot of
12 money we can develop them quickly.

13 Q. How much money would it require?

14 A. See, that's just almost an impossible
15 question for me to answer. I just don't know.
16 Hundreds of thousands certainly I would think, but I
17 don't know for sure. It is such a -- there are so many
18 parts of the question that you would have to think
19 about. It would cost a lot of money, that's all I
20 know.

21 I don't know anyone who has done this
22 anywhere in the world, so you have nothing to go on,
23 you have got to start from the beginning. Certainly
24 you have knowledge, there is no lack of knowledge, but
25 getting that knowledge into the habitat supply analysis

1 is not a small task.

2 Q. And you are not familiar with
3 anywhere in the world that that's been attempted?

4 A. That's right, I am not familiar with
5 anywhere in the world where anyone has attempted to
6 make a habitat supply analysis for great gray owls,
7 red-shouldered hawks or pileated woodpeckers.

8 Q. Is that then combined or
9 individually? I just want to be very clear here. You
10 are saying no one has done it for all three of them all
11 at once, or for any one of those?

12 A. I said, I am not aware of anyone who
13 has developed it for any three of them, individually or
14 together.

15 Q. Are you aware of it for any other
16 species, non-game species?

17 A. Well, I know that people in New
18 Brunswick are working on habitat supply analysis. I
19 know that the list of species that they have worked on
20 is more than just three or four, but I don't know
21 exactly which species they worked on.

22 I know they worked on deer and probably
23 moose and probably some other species, but I don't know
24 which ones.

25 Q. So you are not really too familiar

1 with that program?

2 A. No.

3 Q. What basis are you using then to
4 develop -- form your opinion that this will be very
5 expensive?

6 A. Well, because I know that habitat
7 supply analysis in general is an expensive process, it
8 takes a lot of work to do it.

9 Q. Have you attempted to do it?

10 A. No.

11 Q. So you have no personal experience to
12 draw from?

13 A. No.

14 Q. On page 14033 of the transcripts the
15 Chairman indicated to you, I believe when we were
16 discussing about the problems of -- the complexity of
17 the issue and how you deal with the complexity of the
18 issue - and this issue is this multi-species management
19 approach and whatever - and he indicated to you that
20 the challenge was not only to have adequate knowledge
21 and experience, but also be able to put it into a form
22 that the information could be transferred down to the
23 actual field manager; is that correct?

24 A. That's correct.

25 Q. Do you feel that by developing a

1 habitat supply system, notwithstanding your comments
2 about the difficulties in doing so, for the five
3 species -- rather than a multi-species, for the five
4 species we talked about, and that would basically be
5 three for each of the forest areas, the boreal forest,
6 the Great Lakes/St. Lawrence forest; is that correct?

7 A. Yes.

8 Q. Do you feel that this would be
9 manageable for field managers?

10 A. Given enough money, yes. You can get
11 it into a tool that's easy for a field manager to use,
12 although it is very expensive.

13 Q. And it would in that sense, like the
14 ONEPOP model, aid field biologists in making practical
15 decisions, it would be a valuable aid?

16 A. Oh, yes.

17 THE CHAIRMAN: Do you have any opinion,
18 Dr. Euler, as to whether better decisions -- management
19 decisions would be produced if they had this tool than
20 are presently produced?

21 DR. EULER: See, it couldn't help but
22 make them somewhat better. I really doubt if it is
23 worth the cost. ONEPOP, for example, was about a
24 million dollars to develop and about 10 or 12 person
25 years to develop.

1 Now, I don't know if it's worth
2 spending -- I really would doubt if it's worth spending
3 that kind of money to have a marginal increase in your
4 management ability.

5 We can deal with the problems of great
6 gray owls, pileated woodpeckers and red-shouldered
7 hawks without a supply analysis. I mean, habitat
8 supply analysis isn't the only way to do it and I guess
9 that's a clear point.

10 It's a good way, there is nothing wrong
11 with it, I have absolutely nothing against it. In
12 fact, as a professional biologist I would love to use
13 it because it's fun, it really is, it's a lot of fun.
14 But as a person who also has to be concerned about
15 cost, I feel constrained to be a little more cautious
16 about whether we really need it.

17 MR. HANNA: Q. On page 14067 of the
18 transcripts, Mr. Freidin suggested to you that the
19 planning team approach is the way to move -- is a move
20 away from the constraint approach.

21 Can you advise the Board whether the
22 planning team approach was in place at the time that
23 Dean Baskerville did his audit?

24 A. Okay. Now, there are several
25 elements to this question. Can we just check and see

1 what Mr. Freidin said.

2 Q. Sure.

3 A. I would really like to just read
4 that. What page?

5 MR. FREIDIN: 14067.

6 DR. EULER: 14067.

7 MR. FREIDIN: It starts at the top of the
8 page on line 3.

9 DR. EULER: "You indicate in Ontario you
10 believe you are moving..."

11 MR. FREIDIN: Bottom of the page, line
12 23.

13 DR. EULER: "Can you advise whether the
14 timber management planning process, in
15 particular the planning teams, play any
16 role in that movement away from
17 constraint?

18 Yes, I think it does. I think the
19 planning team brings various knowledge
20 and they would bring that knowledge to
21 the planning team --"

22 Is that right?

23 MR. FREIDIN: The reporter has got to get
24 this down.

25 DR. EULER: Didn't you get that?

1 MR. MARTEL: It's called spinning your
2 wheels.

3 DR. EULER: Yes, I think it does. I
4 think the planning team brings various knowledge and
5 various -- represent various client groups to the
6 planning process and they would bring that knowledge to
7 the planning process, and by planning that very early
8 you can minimize the activity where one value
9 constrains another.

10 Okay. So now the question is: Was this
11 planning team approach in place when Dr. Baskerville
12 did his audit; is that right?

13 MR. HANNA: Q. Correct.

14 DR. EULER: A. Well, let's check with
15 one of the foresters. I think it was, but they know
16 more about it than I do.

17 Q. Mr. Hynard?

18 MR. HYNARD: A. The plans that -- Dr.
19 Baskerville reviewed or audited six different plans and
20 all six had been written under the old process not the
21 new.

22 Q. Did not the old forest process
23 include a timber management planning team?

24 A. Well, no, in my case it didn't.
25 There was the forest management plan which was written

1 covering the period 1980 to 2000 and there was no
2 planning team for that.

3 I had an operating plan written in 1985.
4 I don't know whether Dr. Baskerville included that
5 operating plan as a part of his audit or not. It did
6 include a planning team approach. I'm not sure whether
7 that was a part of his audit.

8 As for the other five, I know they were
9 all written under the old planning process and I
10 somehow doubt that there would have been planning teams
11 involved.

12 MR. HANNA: Mr. Chairman, it is probably
13 an important point to get clarified.

14 THE CHAIRMAN: Could you produce an
15 answer for that, Mr. Freidin, in the sense of making
16 inquiries on behalf of the Ministry?

17 MR. FREIDIN: My understanding is that
18 the information that was given by Mr. Hynard is
19 correct, that the plans which were reviewed were plans
20 which were developed under the old planning process.

21 THE CHAIRMAN: Without the planning team
22 approach? That's your question is it not, Mr. Hanna?

23 MR. HANNA: Absolutely.

24 MR. FREIDIN: Well, I suppose I can come
25 back and relay something like it. Wouldn't it be the

1 problem that I would be giving evidence?

2 THE CHAIRMAN: Well, no, it is just a
3 matter of asking the right witness at the Ministry who
4 happens to know.

5 MR. FREIDIN: I am advised there was no
6 formal requirement for planning teams at the time that
7 the plans which were reviewed by Dr. Baskerville were
8 in fact prepared.

9 MR. HANNA: I am not sure that that
10 answers the question, Mr. Chairman. There may not have
11 been a formal requirement, the question is: Was the
12 planning team in place.

13 THE CHAIRMAN: Well, I suppose that
14 involves looking at each plan and --

15 MR. HANNA: Mr. Freidin has made probably
16 a good suggestion to solve this. Perhaps we can ask
17 Dr. Baskerville when he comes about that particular
18 issue. He is probably most familiar with it.

19 THE CHAIRMAN: He may not know whether or
20 not there was a planning team in effect either.

21 Mr. Freidin, are we to assume if there
22 was no requirement for it that there would not have
23 been one in one place? Can we make that assumption?

24 MR. FREIDIN: I don't know.

25 THE CHAIRMAN: No, I am not asking your

1 personal -- I am asking you to see if you can find out
2 the answer from your client to that question.

3 MR. FREIDIN: I will make some inquiries
4 and come back with an answer to that question.

5 THE CHAIRMAN: Very well.

6 MR. HANNA: Thank you, Mr. Chairman.

7 MR. HYNARD: I can give you an answer
8 with regard to my own unit.

9 MR. HANNA: Yes, that's fine.

10 THE CHAIRMAN: And that would deal with
11 one of the six plans.

12 MR. HYNARD: Okay. There was no formal
13 requirement --

14 MR. HANNA: Q. I think we have already
15 heard - I certainly understand what you've told me,
16 that there is no formal requirement and there wasn't a
17 planning team. That was what you said; is that
18 correct?

19 MR. HYNARD: A. There was no formal
20 requirement, there was no planning team for the
21 management plan. With regard to the operating plan,
22 there was no formal requirement, there was a planning
23 team.

24 I am not sure whether Dr. Baskerville --
25 I don't recall whether he included the operating plan

1 as a part of his audit or not. I do recall Dr.
2 Baskerville questioning closely the supervisors of the
3 other services who had signed on the title page of the
4 management plan as having read it and found it to be
5 consistent with other land use plans for the area.
6 That's not the same thing as a planning team.

7 Q. Dr. Euler, on page 14070 of the
8 transcripts, Mr. Freidin was talking to you about the
9 setting of goals and suggesting that that's a tall
10 order for any resource. You recall that discussion?

11 DR. EULER: A. Well, I am just reading
12 it here, yes. Yes, okay.

13 Q. I believe in your answer you indicate
14 that to integrate all these resources together in
15 something other than a constraint environment is a
16 very, very big job.

17 A. Yes.

18 Q. Are you suggesting that in a
19 constraint environment it is not a very, very, very big
20 job?

21 A. No.

22 Q. So it is a big job any way you cut
23 it?

24 A. That's right.

25 Q. In the next sentence I believe you

1 indicate that all of the knowledge base has to be
2 brought to bear. Can you explain what you mean by
3 that?

4 A. Well, we are talking here about
5 managing across the full extent of the forest for the
6 whole time horizon, which is at least a rotation, and
7 you are dealing with a number of different species, a
8 number of different concerns by user groups and a
9 number of other factors such as the market forces that
10 influence the timber harvest, and there is a great deal
11 of knowledge that has to be brought to bear on the
12 problem.

13 Q. But I believe you were making this --
14 reference as this being a limitation to going to an
15 alternate approach; is that not correct?

16 A. Well, in a sense it is limiting, yes.
17 Yes, because it is expensive, time consuming and
18 difficult, yes.

19 Q. Do I understand that in a constraint
20 environment that all of the knowledge base does not
21 have to be brought to bear?

22 A. Less knowledge may have to be brought
23 to bear in that setting, sure.

24 Q. The next paragraph you go on to
25 indicate how difficult it is to make tradeoffs among

1 such things as the values of jobs versus great gray
2 owls; correct?

3 A. Yes.

4 Q. And the suggestion is that the
5 decision is becoming increasingly difficult and
6 increasingly complicated as you take these things into
7 consideration. Is that the essence of what you are
8 saying?

9 A. Yes, that's correct.

10 Q. Perhaps you can explain to the bird -
11 it's really getting to me - perhaps you can explain to
12 the Board how the decision is easier in a constraint
13 environment?

14 A. Than in an environment of
15 comprehensiveness?

16 Q. The alternate that you are talking
17 about, yes.

18 A. Well, it would be a little bit
19 easier, it would still be difficult.

20 Well, you see, what we do in featured
21 species management has -- and our approach, our
22 guideline approach has elements of the constraint
23 business in it, in that we constrain the timber company
24 in order to achieve wildlife objectives. And that's
25 what Dr. Baskerville is talking about.

1 Q. Excuse me, I just want to -- he is
2 talking about...

3 A. Well, when he talks about constraint.

4 Q. Okay, I'm sorry.

5 A. I mean, there are -- in all of this
6 business there are two fundamental tenants. One is
7 this idea of constraint where a service says to another
8 service: Please do not do the following, okay. That
9 is considered a constraint.

10 The other way to go about it is to say:
11 Let's work together to produce the following: Six
12 moose, five trees or whatever. Those are the two
13 different approaches.

14 Now, it is very difficult to get into
15 which is more difficult, which is more complicated,
16 which is harder, which is less expensive and so on.
17 Those are extremely difficult issues.

18 It seems to me in general - and I think
19 Dr. Baskerville says this in his writings - that if you
20 are going to get into this cooperative business and
21 provide a home for the great gray owls and the warblers
22 and the moose and make timber and jobs and so on,
23 that's a very complicated process, and indeed it is. I
24 agree with that however you do it.

25 And we are trying to adopt some of the

1 principles of Dr. Baskerville, this adaptive
2 management, this built-in learning process and do that
3 principle of learning and so on. But we are doing
4 something a little more simple in that we have a
5 featured species approach where we say to our people:
6 Can we reduce the complexity a little bit and give you
7 just a few guides or rules to follow.

8 And we think that we can meet the
9 objectives that the people of Ontario have outlined for
10 us using a bit simpler approach, but still having the
11 principles of adaptive management.

12 MR. MARTEL: Dr. Euler, in the final
13 analysis though, do you still not -- no matter which
14 approach you use, you're going to say: I have this
15 area which I can't touch because I have got to protect
16 something.

17 DR. EULER: Yes, exactly. That's right.
18 In the final analysis those areas remain.

19 Well, yeah. You see, now Dr. Baskerville
20 in all of his writings feels that there is a
21 fundamental difference here and it is this idea of
22 constraint, you only -- you just go to the speed limit
23 and no more; you go as far as you can and no more, you
24 see, and he makes quite a deal out of that, as opposed
25 to going to the field together to make moose and trees.

1 See, he tries to describe that as two
2 fundamentally different processes. Now, whether it is
3 or not, we could probably debate for a long time.

4 MR. MARTEL: But the bottom line, does it
5 still not come back to the same thing, you are going to
6 somewhere stop before you go over the threshold?

7 DR. EULER: That's right. Somewhere you
8 have to leave a tree for an owl that a timber company
9 wants to make money off, that's right. And in that
10 sense you can call it a constraint.

11 Now, all of these concepts gets really
12 difficult and if you try to assess which is more
13 complicated, which is less complicated, which is
14 more --it just leads you into a morass of difficulty
15 here.

16 MR. HANNA: Q. Dr. Euler, if I was to
17 say to you: Let's take just the featured approach but
18 use what Dr. Baskerville is suggesting, instead of a
19 constraint environment, an objective environment. I'm
20 concerned and this is I why I started right at the very
21 beginning with trying to keep these concepts separate.

22 If I take the featured species approach
23 and I say: This is my objective that I wish to
24 establish, are your comments still the same?

25 A. Well, you see, that's what we are

1 trying to do in Ontario. We are trying to simplify all
2 this morass of difficulty into some fairly easily
3 understood approaches that can deal with adaptive
4 management and change. And I think that's what we are
5 trying to do, as near as I can understand it.

6 So we do featured species management,
7 which means the person on the ground has a relatively
8 small number of things to think about and yet he can
9 still meet the objectives.

10 There is a constraining element involved
11 in it. We still try to be adaptive in the process, and
12 I think it's -- somehow it seems to me that it's the
13 best amalgamation of all this stuff that we can do.

14 Q. Has the habitat supply analysis
15 approach been attempted in a prototype way in Ontario,
16 to the best of your knowledge?

17 A. We have one person who is at the very
18 beginning stage, the very first steps of trying this.

19 Q. This is Mr. Voigt?

20 A. Yes.

21 Q. All right. Well, we have heard about
22 that, so...

23 A. Very early in the process.

24 Q. So, to the best of your knowledge,
25 has the Ministry of Natural Resources accepted or

1 rejected this approach?

2 A. Oh no, we have neither accepted nor
3 rejected it and we would be very happy to accept it as
4 soon as it becomes feasible at a reasonable cost.

5 Q. Was the habitat supply analysis
6 concept known at the time that the moose guidelines
7 were developed?

8 A. Well, yes, I think so, although I am
9 not very sure. I mean, that concept has been around
10 for a long time.

11 Q. No, I am sure that's -- we realize
12 that. I think it's more this taking that, if you will,
13 theoretical and putting into a practical management
14 type environment. To the best of my knowledge, was not
15 Dr. Baskerville's 1985 paper really the first clear
16 expression of that?

17 A. Well, it may well have been, I just
18 don't know. You see, they wrote that book called
19 Adaptive Management, that was several years earlier and
20 I think some of those concepts are in there.

21 Q. I think we are getting confused now
22 because adaptive management, remember, is something
23 different.

24 A. Well, I am talking...

25 Q. Are you talking about Dr. Hollings

1 book, is that what you are referring to?

2 A. Yeah, yeah. Why don't we just accept
3 your proposition that it was in 1985. I would be happy
4 to do that.

5 Q. That's fine. I think we have seen
6 through the examples of red-shouldered hawk that
7 sometimes large bureaucracies take a long time to
8 respond to new innovations; is that not correct?

9 A. Sometimes they do.

10 MR. HANNA: Mr. Chairman, I feel like
11 falling over. I'm finished. I am tired. I would like
12 to stop.

13 THE CHAIRMAN: Well, we insist that you
14 go on until six o'clock, we are going to leave until
15 six. We are going to sit here until six, you can
16 leave.

17 MR. MARTEL: Make up some questions.

18 DR. EULER: How about we ask you some
19 questions now.

20 THE CHAIRMAN: Well, I think it's been a
21 long day for everyone. I take it you are finished
22 with...

23 MR. HANNA: I am finished with this
24 panel, Mr. Chairman.

25 THE CHAIRMAN: With this panel. Thank

1 you very much.

2 Ladies and gentlemen, we will adjourn for
3 the night and I believe we are going to return tomorrow
4 at I think 8:30. I can't remember what instructions we
5 gave to Mr. Hunter, but I think we will commence at
6 8:30 and we may be sitting tomorrow to as late as two
7 in order to accommodate him finishing this panel which
8 he indicated he might be able to do if we sat that
9 late.

10 So I would ask everyone to make the
11 necessary arrangements to get to the airport in time
12 for the - with the exception of Mr. Martel who is going
13 somewhere else - we all should be able to make it on
14 the 5:10 flight, I think.

15 But, in any event, Mr. Hunter may not
16 even take that long, but we indicated to him we might
17 be prepared to sit close to two.

18 If we can't finish him tomorrow, then
19 obviously he will carry over next week.

20 Thank you.

21 ---Whereupon the hearing adjourned at 5:00 p.m., to be
22 reconvened on Thursday, April 27th, 1989, commencing
23 at 8:30 a.m.

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